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ABSTRACT

This guide is designed to present and deal with the major concerns of all those responsible for evaluating, installing, and maintaining a performance-based teacher education (PBTE) program. It is also intended, in a wider sense, for all who are interested in exploring the potential of performance-based education at any level and in any subject matter field. Systematically, the requirements for an optimal program are described and possible solutions to problems are presented. Wherever feasible, alternatives are given that may be adopted or adapted to suit a wide diversity of educational settings. Content is presented under the following headings: An Awareness Program for PBTE; Planning for Change or PBTE; PBTE Program Patterns; Selection of Teacher Competencies for the PBTE Program; Development of Instructional Materials; Instructional Program Management; Learning Facilities for PBTE; School, University, and Education Agency Coordination; Grades, Credits, and Recordkeeping; Certification for PBTE; Financial Support for PBTE; and Personnel Development for PBTE. (HD)

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GUIDE TO THE IMPLEMENTATION OF PERFORMANCE-BASED TEACHER EDUCATION

BEST COPY AVAILABLE

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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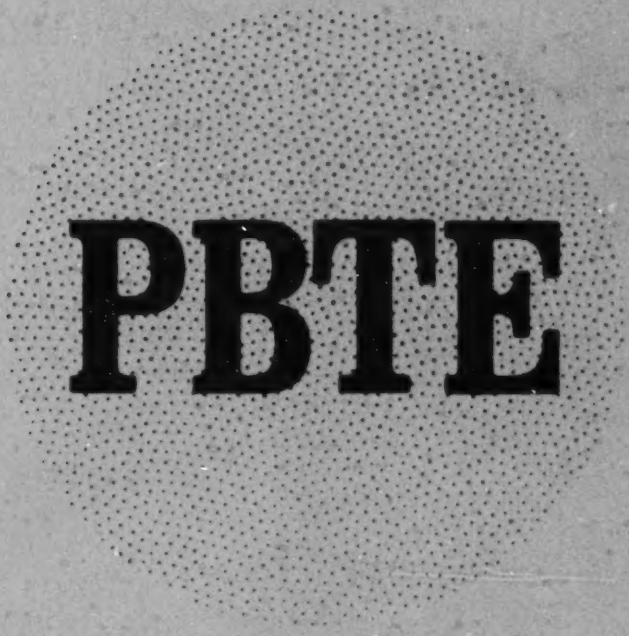
- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

GUIDE TO THE IMPLEMENTATION OF PERFORMANCE-BASED VOCATIONAL TEACHER EDUCATION



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THE CENTER FOR VOCATIONAL EDUCATION
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FOREWORD

After an intensive program of research and development by The Center for Vocational Education, the Performance-Based Teacher Education Curricula is ready for implementation by teacher education institutions. This guide to the implementation of performance-based teacher education (PBTE) and its two related publications (State-of-the-Art Report and Resource Person Guide to Using Performance-Based Teacher Education Materials) are designed to assist those who are taking this exciting step in the direction of improved vocational teacher preparation.

The guide attempts to present and deal with the major concerns of all those responsible for evaluating, installing, and maintaining a PBTE program. In systematic fashion, it describes the requirements for an optimal program, and presents possible solutions to the problems. Wherever feasible, alternatives are given that may be adopted or adapted to suit a wide diversity of education settings.

Among those persons who may find the materials in this document helpful are heads of vocational teacher education departments, deans of teacher education programs, PBTE program coordinators, directors of school professional development programs, and resource persons. Though prepared specifically for those installing The Center's PBTE curricula materials, it is intended that this guide may also prove useful in a wider sense to all who are interested in exploring the potential of performance-based education at any level and in any subject matter field.

Acknowledgement is due to Glen E. Fardig for taking major responsibility for preparing this document, drawing not only from his work in The Center's Performance-Based Teacher Education Curricula, but from his considerable experience as a teacher educator. Recognition is also given to Robert E. Norton, Director of the National Institute for Performance-Based Teacher Education, of which this document is one product, and to James B. Hamilton, Program Director for Professional Development in Vocational Education. They provided professional input and reviewed the manuscript. The coordinators at the PBTE advanced test sites also gave many helpful suggestions for the improvement of this work. Lois Harrington made a valuable contribution in refining and editing the manuscript.

Robert E. Taylor
Director
The Center for Vocational Education

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INTRODUCTION

Seldom in the history of education has an idea received such widespread interest and rapid acceptance as has performance-based teacher education (PBTE). Development work is proceeding in a number of research and development centers, traditional teacher education programs are being modified to meet some or all of the criteria of PBTE, and the installation of completely new PBTE programs is being contemplated in many teacher education institutions.

In spite of this, much still needs to be learned about how best to plan, organize, and manage PBTE programs. Implementation can be complex, and demands new outlooks, organizational patterns, and instructional techniques. The literature on PBTE raises many questions about how PBTE should be implemented. Unfortunately, there is a dearth of answers.

It is the purpose of this Guide to the implementation of PBTE to provide answers to some questions, suggested solutions to some problems, and some alternative courses of action that may aid in the process of installing the PBTE approach. This Guide is designed for the administrator of a teacher education program who is ready to begin the change process, whether dean, department chairman, project director, supervisor of inservice education, director of professional development, or other.

Implementation problems and procedures are much the same for all performance-based teacher education programs, even though every program will have unique needs and constraints and each will need to develop solutions appropriate to itself. The principles and ideas presented in this Guide should prove useful to a wide range of institutions. This document focuses on the implementation of PBTE for preservice and inservice, secondary and post-secondary vocational education teachers in all the occupational service areas. The problems and procedures discussed here are specifically related to the installation of the performance-based teacher education materials developed and tested by The Center for Vocational Education at The Ohio State University, Columbus, Ohio. Teacher education institutions utilizing other PBTE instructional materials will have similar concerns and should find the material in this Guide useful.

The Center's PBTE materials are the result of ten years (1967-1976) of intensive effort; first, to develop a research base for a valid vocational teacher education program, and second, to develop a complete and thoroughly tested array of instructional materials to be incorporated in PBTE programs.[1]

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[1]For a review of this research and development process, see James B. Hamilton and Karen M. Quinn. Resource Person Guide to Using Performance-Based Teacher Education Materials (Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1976).

Major funding for this work has been provided by the federal government through the U.S. Office of Education (USOE) and the National Institute of Education (NIE), the Department of Health, Education, and Welfare. Only through such long-term support was it possible to continue a research and development effort of such scope and magnitude.

The Center's PBTE modules consist of 100 separately produced booklets, or learning packages, encompassing all of the 384 professional competencies found to be important to effective vocational teachers. Each module is designed to help the teacher become proficient in one or more of the competencies. Virtually all the modules are self-contained, and can be utilized in a variety of individualized or group-based instructional settings. Initial development of the modules was carried out by The Center in cooperation with Oregon State University and the University of Missouri-Columbia. Oregon State University, Temple University, and the University of Missouri-Columbia participated in the preliminary testing of the modules. Every module has been extensively field tested in ongoing teacher education or staff development programs, and has been revised in the light of field-test results. Advanced testing at 18 institutions of higher education, including one post-secondary institution, was conducted prior to final refinement and publication of the materials.[2]

The test sites provided not only feedback on the modules themselves, but information about the problems of installing performance-based instruction in teacher education programs. Many of the concerns identified in this Guide, and many of the suggested solutions and procedures, are outcomes of the field-testing effort. This revision of the Guide has been based upon the field testing inputs of teacher educators who served as resource persons, experienced teachers, and undergraduate students. Programs were observed in operation, students and teachers were interviewed, and formal meetings were held with teacher educators and administrators to obtain their reactions and recommendations. Much valuable information was also gathered from the results of a questionnaire designed to elicit suggestions for improvement of the Guide.

Three documents produced by The Center for Vocational Education are related to this implementation guide. Each has a unique focus, but all are aimed at providing assistance to teacher educators and others interested in PBTE.

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[2]The advanced test sites were: University of Arizona, Central Washington State College, Colorado State University, Ferris State College, Florida State University, Holland College, University of Michigan-Flint, University of Minnesota, University of Nebraska-Lincoln, State University College at Buffalo, University of Northern Colorado, Oklahoma State University, University of Pittsburgh, Rutgers University, Temple University, The University of Tennessee, Utah State University, University of Vermont.

Performance-Based Teacher Education: The State of the Art--General Education and Vocational Education by Robert E. Norton, Lois Harrington, and Janet Gill (1976) deals with the philosophical bases of PBTE and attempts to describe the PBTE movement as it is at this stage in its development. It describes present programs, and surveys the literature to find what education leaders are thinking and saying about PBTE.

The Resource Person Guide to Using Performance-Based Teacher Education Materials by James B. Hamilton and Karen M. Quinn (1976) is a practical document designed to help define this new professional role and to amplify and clarify the resource person's responsibilities. While it's specific concern is the teacher educator (whether in a university or school setting) who will be working with The Center's modules, it can be used for the orientation and training of resource persons in many kinds of programs.

The Student Guide to Using Performance-Based Teacher Education Materials by Robert E. Norton and May Huang (1976) describes the basic principles of PBTE in the terms of students who are enrolling in the program. Its question-and-answer form briefly explains the program and helps to correct misapprehensions. Because the guide is general in nature, students will, of course, need more specific orientation to the institution's own PBTE program.

All of these documents should be helpful to the teacher educator, and all are closely related to one another. As far as possible, repetition of information among these documents has been avoided. Therefore, the administrator and resource person is referred to each one for the specific information required. Throughout this Guide, where the term "teacher educator" is used, it should be understood to apply to the person responsible for the preparation and training of teachers, whether that person is based at a college or university, state department of education, or local school system.

Several assumptions are basic to the content of this implementation Guide. It has been assumed that the teacher education institution or agency contemplating change has in fact already made a thorough study of its teacher education program and the professional needs of its students. As a result of this study, a need for changes in, and improvement of, the program has become apparent, and a basic decision has been made to move toward the installation of some form of performance-based program. It is also assumed that the basic concepts and principles of PBTE are understood and have been accepted by the institution's leaders, including such persons as the dean and department head, and that a majority of the teacher education faculty are convinced that the PBTE approach has merit.

As a result of these assumptions, a rationale for performance-based teacher education is not presented here. Persons wishing

to gain an understanding of the concepts underlying PBTE are referred to the Resource Person Guide, and to the State-of-the-Art Report where extensive literature on the subject is reviewed.

It should be clearly understood that there is no assumption, either in this or the related Center documents, that PBTE is the only approach to the improvement of teacher education. Neither is it contended that The Center's PBTE materials are the ultimate in instructional materials for vocational teacher preparation. PBTE and the modules are presented as approaches that, among others, are of proven potential and are worthy of serious consideration by teacher educators. In the interest of brevity and clarity, the Guide confines itself to the implementation of PBTE, and does not address itself to other possible alternatives, as worthy as they may be. It is the responsibility of teacher educators and other personnel development specialists to apply their scholarship and professional judgment to the design, development, and maintenance of effective teacher education programs using the resources at their disposal.

AN AWARENESS PROGRAM FOR PBTE

The Need

It is not enough that the teacher education leadership have a conviction that the program needs change and that the performance-based approach is the direction to go. The change to PBTE is pervasive in that it may affect a great range of persons in the educational endeavor: teachers, teacher educators, undergraduate students, school administrators, university staff, and supporting personnel. If the installation of performance-based instruction is to be supported, and if it is to be successful, it will need the understanding and cooperation of all of these groups. In this case, the key to understanding is information, and the basis for cooperation is commitment.

Because it challenges many time-honored beliefs and practices, the PBTE approach may be threatening to some persons who will be most directly affected. Because it is a newly emerging movement, many will have a limited knowledge of PBTE principles and their practical implications, while others will have some knowledge, perhaps distorted by misinformation. The first step in creating interest and gaining acceptance, therefore, may need to be a planned awareness program. Such a program should be designed to reach all members of the groups concerned and should provide them with accurate information about PBTE appropriate to their interests and levels of understanding.

The scope and intensity of any effort to increase awareness of PBTE will vary with the degree to which implementation is to be effected. If the initial implementation is going to be confined to one or two teacher educators incorporating the approach in a methods class, for example, perhaps only the immediate department members will be involved or affected. If an entire teacher education program is considering installing a completely reconceptualized PBTE program, then a thoroughly organized plan and long-term effort will probably be necessary.

Groups and Individuals Needing Orientation to PBTE

The teacher educator or administrator concerned with the implementation of performance-based teacher education will want to make an informal analysis to determine which groups and individuals within and without the institution should be made aware of the proposed PBTE program. Each institution or education agency will probably identify a unique constituency to whom it is responsible and to whom it must provide information. A university preservice program may focus its attention on prestigious individuals and powerful groups within the institution. An inservice professional development agency will probably be primarily concerned with public school personnel.

The goals of the awareness program are to improve understanding, and change attitudes, values, and behavior patterns of those involved in teacher education. Some of these attitudes and values may be very close to the individual's concept of professional self, and thus resistant to change. The task of orienting the various constituent groups to the virtues of performance-based teacher education should not be underestimated, nor should it be undertaken in a haphazard manner.

The listing that follows notes some of the groups that may need orientation to PBTE and suggests possible content areas for such orientation that may be appropriate to each group. The extensiveness with which the topics are presented would, in large measure, be determined by the group's previous understanding and experience. In most instances, however, the early awareness program should deal with general principles rather than specific problems. The main objectives at this stage should be to lay the groundwork for subsequent discussion, to correct misinformation that may already exist, and to allay the mistrust and anxieties that are common when new ideas are presented.

University Administrators

- Need for change in teacher education
- Potential power of the PBTE approach
- General estimate of costs
- Administrative strategies
- Effect on personnel (staffing)

University Curriculum Committee

- Research base of PBTE
- Principles and concepts of PBTE
- Curriculum development procedures
- Potential of the PBTE approach
- Proposed instructional materials and procedures
- Standards of student performance
- Assessment of student performance
- Awarding of grades and credits

College of Education Faculty

- Results of study of the institution's present program
- Need for change and advancement
- Research base for identifying teacher competencies
- Potential for program improvement
- Characteristics of PBTE programs
- Instructional procedures
- Role of resource person in PBTE
- Advantages/possible limitations
- PBTE materials available

Students in the Preservice Program

Basic ideas underlying PBTE
Modules and individualized instruction
Terminology of the movement
The role of the student in PBTE
Relevance of PBTE to teaching
Student/faculty interaction

State Education Agency Personnel

The power of PBTE for teacher improvement
Relation of PBTE to public pressures for accountability
Ongoing projects and programs in other states
Accreditation and credentialing of students
Identification and acceptance of teacher competencies
The role of the state agency in supporting PBTE efforts

Teacher Professional Associations

Pressures for change in teacher education
Increased professionalism of the teacher in PBTE
PBTE and licensure
Identification of teacher competencies
Teacher contracts, differentiated staffing, and PBTE

Local Professional Development Personnel

Basic concepts of PBTE
PBTE and its function in professional development
Selection of competencies based on teacher needs
Modules and individualized instruction
Differentiated staffing for PBTE
Training teachers in an actual school setting

Inservice Teachers

Basic concepts of PBTE
Relationship to improved teaching performance
Personalized approach to professional development
Modules and independent learning
Roles of teacher and resource person
PBTE and certification

In addition to the groups mentioned above, some institutions may have special constituents which should be involved in the awareness program. A community college with a concerned citizenry may wish to inform the public of its program plans so as to forestall possible negative reaction. A small college whose alumni and parents of students are active participants in the institution may work to inform and involve these groups. A school system may need to reassure the minority leaders in the community that performance-based teacher education is both humane in intent and academically respectable.

Considerable information is available in the professional literature on most of the topics previously mentioned. The PBTE program director is referred to two related documents produced by The Center for Vocational Education: the State-of-the-Art Report, and the Resource Person Guide, for valuable information on many of the topics. The exact content, emphasis, and approach to be used will vary, of course, with the target group and the local situation.

Information about PBTE and orientation to its concepts can be presented to the target groups in a number of ways. Whatever the format, the basic process should be one of communication, not coercion; discussion rather than decree. Institutions implementing PBTE have found that group consensus, though more time-consuming and requiring more patience, provides the program with a greater chance for success than an authoritarian approach. In selecting communication techniques, the PBTE program director planning an awareness program should consider the following:

- Informal conversations with individuals and small groups
- Small- and large-group discussions
- Conferences and workshops
- Group retreats
- Formal presentations and symposiums
- Brochures, position papers, and other documents
- Multi-media techniques
- Combinations of communications devices

Institutions that have implemented The Center's PBTE materials have successfully utilized the following strategies in their awareness programs:

- Workshops or meetings in which members of the professional staff of The Center make presentations and conduct learning activities.
- Meetings of institution faculty in which students who have been directly involved in PBTE give informal and spontaneous presentations of their reactions to the program and materials.
- Discussions by teacher educators on local television "talk shows," explaining the PBTE approach to the community.
- Use of The Center-produced slide/tape, "CVE's Performance-Based Vocational Teacher Education Curricula," in presentations to faculty groups.

- Small-group discussions based upon the "Vocational Teacher Competency Profile" available from The Center and reproduced in Section VII of this Guide.

- Large-group presentations about the PBTE approach by institution staff, based upon the series of overhead projector transparencies available from The Center.

- Group explanation and "walk-through" of a typical PBTE module to teacher education faculty.

To bring a sense of realism, practicality, and urgency to the PBTE awareness effort, two other activities are worth considering. One is to invite to the institution an outside consultant (or group of consultants) recognized as expert in performance-based teacher education. The use of an expert may cause many to listen and respond who would not be impressed by a more familiar educational figure. Another extremely valuable activity is to arrange for a selected group of local educational leaders to make visits to functioning and successful PBTE programs. The enthusiasm of PBTE adherents is usually infectious and an understanding of the approach can be gained through visitations that may not be possible in any other way. References to existing effective PBTE programs are made in The Center's State-of-the-Art Report.

Any vocational education leader presenting the concept of performance-based teacher education should be prepared to deal with a number of questions and issues that are frequently raised. Whether they are considered relevant or irrelevant, such questions can be responded to directly and forthrightly because PBTE attempts to meet the issues of teacher education head on. For the most part, criticisms of PBTE are in reality criticisms of teacher education in general, and can be dealt with accordingly. Among the criticisms most likely to be voiced in any discussion of PBTE are the following:[3]

- The parts do not equal the whole. The mere fact that students are able to demonstrate competence in isolation does not guarantee success in the classroom.

- Because PBTE is based on the systems approach, it is mechanistic and dehumanizing.

- It is inconsistent for PBTE to claim to be individualized and yet expect each student to display the same competencies.

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[3]Extracted from Allen A. Schmieder, Competency-Based Teacher Education: The State of the Scene. PBTE Monograph Series: No. 9 (Washington, D.C.: American Association of Colleges for Teacher Education, 1973).

- Trivial behaviors are those most easily operationalized; the really important aspects of teacher education may be overlooked.

- We really know so little about how students learn that it seems ridiculous to base a program on competencies that may not be the appropriate ones.

- The really important areas of teaching are in the affective domain, and these are inadequately dealt with in performance-based education.

Effective responses to these challenges are presented in the Schmieder document, as well as, in more general terms, throughout the literature of the field.

The questions most frequently asked about The Center's PBTE materials tend to be similar to those asked about PBTE in general. The most prevalent concerns, along with very brief responses, are given in the section that follows. Additional information on which to base extended responses can be derived from this Guide and from other Center documents on PBTE.

Expressed concern

No beginning vocational teacher can be expected to master all 384 professional teacher competencies included in The Center's PBTE modules.

Response

No beginning teacher is expected to. The 384 competencies are seen as lifetime skills of a fully effective professional teacher. Beginning teachers will need to be proficient in some of them immediately as they enter the classroom. Other competencies can be gradually acquired over time. Some of the identified competencies (e.g., coordinating cooperative education) may never be needed by individual teachers. Every teacher can develop a personal repertory of skills best suited to his/her needs, interests, and capabilities.

The Center's PBTE modules appear to be devoted exclusively to teaching skills without concern for the important affective domain.

It is certainly agreed that teachers' attitudes and values are highly important to effective teaching. The Center's PBTE modules deal with these important matters in the information sheets and in many of the prescribed learning activities. The final assessment forms of many of the modules include items that expressly or implicitly focus on the affective aspect of the teaching

competency. The resource person, an integral part of the modularized program, has additional opportunities to guide teachers' affective learning.

There is no conclusive research evidence that proves that the 384 teacher competencies on which the modules are constructed are directly related to student learning.

Much research work still must be done before we can conclusively link teacher competencies with student learning and occupational success. The research studies on which The Center's modules are based are important steps in that direction. The identified competencies constitute a far more solid foundation on which to build a teacher education curriculum than the intuitive and inbred approach to curriculum construction that has often characterized teacher education in the past. Present PBTE programs can move forward with confidence; future programs will benefit from an even greater understanding of the teaching/learning process that continued research will provide.

The Center's PBTE modules seem to imply that all vocational service areas, and all teacher education institutions should have the same training program.

Not at all. Each teacher education institution will probably want to develop a PBTE program unique to its students' needs, its own resources, and its educational setting. The selection of specific modules, and the organizational framework in which they are utilized permits a rational and systematic approach to program design that has often been lacking hitherto. The modules themselves are developed on the professional competencies that research has shown to be common to all service areas. They are written so that they are relevant and valuable to all vocational teachers.

The ideas seem to be good ones, but the cost and complexity of implementing such a program make it unfeasible.

It is true that the implementation of The Center's PBTE materials requires thorough planning if they are to be used to their greatest potential, but good planning is necessary for any effective teacher education program. The cost of implementation can vary a great deal, but if the instructional system is kept simple, the students' expenditures for modules and the institution's cost of instruction should be comparable to traditional programs. Because the PBTE approach can produce thoroughly trained teachers, the cost/benefit ratio may be favorable indeed.

The availability of The Center's PBTE materials makes it possible for community colleges, school systems, and others to get involved in teacher education, thus undermining the position of legitimate teacher education institutions.

Institutions that are respected centers for vocational teacher education need have no fear of PBTE and the use of The Center's materials by others. There is a great deal of work to be done in preservice and inservice teacher education. Institutions with up-to-date programs of proven effectiveness, responsive to the needs of vocational education, will continue to find their services in strong demand. There may be a realignment of responsibilities, new patterns of cooperation among institutions, and increased pressure for traditional programs to revitalize themselves, but these changes can greatly benefit the education of teachers.

PLANNING FOR CHANGE TO PBTE

The Need

The task of implementing a PBTE program, even one in which the basic instructional materials have already been developed, commits the institution to a considerable outlay, or at least a reallocation, of its resources. These include the resources of faculty and staff as the program is planned and put into operation, and the physical resources to begin and sustain the program. In order for PBTE program directors to marshal these resources, they must obtain the commitment of all those persons who are to be involved and whose attitudes and behavior patterns must be changed.

The need for various groups in the establishment to be provided with a basic orientation to PBTE has been discussed in the previous section. In this section, the administrative steps to be taken will be outlined. This includes (1) the selection of the change strategies to be used, (2) the use of an advisory committee, (3) the use of outside technical assistance, and (4) the employment of planning devices. Again, while the principles may be universal, the local situation may dictate unique decisions.

Progress Toward Change

Institutions, like individuals, reach the decision to change by proceeding through a series of readily identifiable stages. The length, complexity, and difficulty of these stages may vary with the institution, but will generally follow a definite sequence. Various writers have used their own terminology in labeling these stages, though most are agreed on the basic progression. As applied to the adoption of a PBTE program, the phases might take the form presented in the section that follows. However, the phases are often not clearly defined, nor are they always in an orderly sequence.

1. Awareness of PBTE. The ideas involved in the PBTE approach are presented to the members of the institution. They become aware of the basic principles and practices, but are only passively interested and concerned. Depending on the presentation and their personal backgrounds, they may or may not wish to know more about it. They may still have some misinformation about PBTE.

2. Examination and study of PBTE. The potential of PBTE is studied, discussed, and examined closely. Further information is sought and acquired. This is the appropriate stage for thorough examination of The Center's PBTE modules and their developmental base. Group work is organized, and tentative outcomes identified. A generally positive response is crucial at this stage

for continued progress toward the adoption of PBTE. The program director can assist group members in this phase by facilitating the acquisition of information, bringing in consultants and the curriculum developers, and helping to organize the study effort.

3. Appraisal and decision. The staff appraises the potential of PBTE to improve teacher education in the institution, and estimates the benefits of such change. A decision must be made at this point that PBTE has merit and that the institution should indeed move toward some form of implementation. The program director can provide psychological support, ease tensions, minimize threatening situations, and help bring the decision process to closure.

4. Trial and experiment. The institution begins to implement PBTE modules on a trial basis, usually on a small scale. The staff identifies problems, experiments with solutions, and develops some workable modes of operation. Decisions for future courses of action and commitments are made during this phase. The program director can bring all available forces to bear to devise solutions and increase the chances for success.

5. Adoption and integration. With the completion of a successful trial phase, the institution proceeds to use the modules for a larger proportion of the teacher education program. It commits the necessary resources of staff, funds, and physical facilities to the task. Integration and institutionalization of PBTE merge as adoption continues. Performance-based teacher education becomes an established and accepted function of the institution.

During the idealized change process just outlined, the institution (and specifically the program director) can choose from among several change strategies to move the members of the group toward the desired goals. Educational administrators will probably find these strategies familiar enough, but they have special applicability to the implementation of performance-based teacher education. Each strategy has advantages and disadvantages that must be weighed to determine the most advantageous action in any specific educational setting.

A report on planning for a performance-based teacher education program at the University of Toledo describes six viable approaches open to the teacher education administrator in working toward the implementation of PBTE. They are presented here not as recommendations but as alternative courses of action. It is assumed that the teacher educator already has made a strong professional commitment and is prepared to put personal effort into the PBTE movement.

A. The decree approach. In this approach, unilateral decisions are made by a person (or persons) in a position of authority. A dean, department chairperson, or project director decides that the teacher education program will move toward PBTE. In some states, the legislature or state education agency may mandate PBTE and prescribe dates for full compliance. Staff members are given specific assignments and deadlines are set. The person in authority breaks any deadlocks that develop and makes final decisions. The decree approach might be required during the beginning phases of change in order to get a program off dead center, but as the new program develops it should be less needed. The inherent hazards of faculty antagonism and resistance in this approach are apparent.

B. Replacement approach. Individual staff members desiring not to participate in the PBTE effort are allowed to remove themselves from the institution or accept other responsibilities. Replacement personnel are selected at least partially on the basis of interest and commitment to PBTE. Faculty serving traditional functions in the instutition who hold opposing views of PBTE are encouraged to express their opinions and act as a "loyal opposition."

C. Structural reorganization approach. Initially this can be a powerful force for change to PBTE. Relationships among faculty and staff can be changed by forming PBTE developmental groups, a special PBTE task force, or instructional teams, thus bypassing the traditional departmental structure. It is possible that internal stresses may develop within the organization, however. This strategy may be less necessary as the faculty assumes more responsibility for the development and direction of PBTE.

D. Group decision approach. This involves obtaining group agreement to carry out decisions and solutions made by others. During the early stages of the PBTE program, this may involve a "rubber stamp" procedure for decisions that have been made by the program director. Later, this process becomes less used as various groups make and implement their own decisions.

E. Data discussion approach. The success of this approach depends on the presentation of relevant data about the program to those involved in the development and implementation of the PBTE model. Program developers furnish the faculty with information as the process continues, and decisions are made by the faculty on the basis of the data. One problem is to furnish the right amount of information so that faculty will neither perceive that they are being overwhelmed nor that vital information is being withheld from them.

F. Group problem-solving approach. Using this approach, problems are identified and solved through group effort. This may involve group discussion and special outside help. This is the most desirable option, though others may continue to be used as conditions require.

There are a number of specific techniques for advocating change that may be particularly appropriate to a given educational situation. Again, the advantages and disadvantages should be carefully considered before it is applied. The educational leader who is working toward the implementation of PBTE may wish to refer to the following publication for a description of implementation techniques: William L. Hull and Norval L. McCaslin, Career Education Implementation: A Handbook for Strategy Development, Columbus, Ohio: The Center for Vocational Education, The Ohio State University [in press].

Getting any total teacher education staff to change its education program may be a difficult undertaking. One strategy that may be particularly applicable to the use of the modules is the experimental approach. In this case, a group of staff members are encouraged to begin an "experiment" or "testing program" with a limited number of students involved, and only a selected number of modules used at first. As implementation problems are solved and acceptance is gained, faculty involvement and student enrollment are gradually increased.

It is usually not possible to formulate complete plans or to solve all installation problems before students are enrolled. A more practical approach is to make some decisions, devise the best plans possible under the circumstances, and then get the program underway, at least on a limited basis. The overall program can be revised and refined in a kind of "rolling change" as experience is gained and formative data is collected.

The literature dealing with the administration, principles, techniques, and strategies related to PBTE is gradually expanding, though there is still much that is unresolved and untouched. The interested reader may wish to refer to a recent publication of the AACTE, A Practical Management System for Performance-Based Teacher Education, by Gentry and Johnson.[4] This paper describes a series of operational principles and a management model for PBTE that have been found useful in functioning programs. It should be noted, however, that some of the principles on which The Center's PBTE modules are built differ from those described in the AACTE paper.

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[4]Castelle Gentry and Charles Johnson, A Practical Management System for Performance-Based Teacher Education. PBTE Monograph Series: No. 15 (Washington, D.C.: American Association of Colleges for Teacher Education, 1974).

Educators often lack pertinent information on which to base their decisions. It may be helpful to use some form of guide or checklist to structure the information-gathering and decision-making process. The section that follows presents such a program considerations guide. By seeking answers to the questions, the PBTE program director will reduce the risk of failure due to an oversight in considering essential information.

PROGRAM CONSIDERATIONS GUIDE

The Program for Change

- What groups (or individuals) will be most affected by the change to PBTE?
- What persons must be committed to PBTE before it can be implemented?
- How can the cooperation of the faculty and staff be best obtained?
- What groups outside the institution should be informed or consulted about the PBTE program?
- How can outside consultants be used to effect the implementation of PBTE at the institution?
- How can the personal and professional needs of the teacher education staff be met in the proposed PBTE program?
- What other efforts will need to be made to facilitate change to PBTE?

Program Design

- How will competencies/modules be integrated into existing teacher education courses?
- How can present courses be converted to individualized, competency-based activities?
- How will the teacher competencies be identified for: (a) the preservice program, (b) the inservice professional development program, (c) survival skills for teachers newly recruited from industry?
- How will module credits and student requirements be determined?
- How will grades for completed modules be determined?
- How will individual student programs be designed?

- How will students' pre-existing competencies be evaluated and validated?
- How will student progress and achievement be recorded?
- What provision will be made for students who work at varying rates?
- What other factors should be considered in the PBTE program design?

Management of Instruction

- What persons will be used as resource persons in the institution?
- Who will act as resource persons in the schools or in the field?
- How will resource persons be given the training they need?
- How can group activities be organized for teachers in the field?
- How will the necessary resources be provided for teachers in the field?
- How will teachers be given the final assessment in an actual school situation?
- What arrangements will be needed to provide for videotaping, peer groups, and other simulation activities?
- What arrangements need to be made to ensure that resource persons are conveniently available to students?
- What additional management problems will probably need to be solved?

Resources for the PBTE Program

- What additional (or reorganized) space or facilities will be required for the PBTE program?
- What additional equipment will be needed?
- How will a PBTE resource center be provided?
- What special instructional materials and resources will be needed?
- How can all the needed resources be acquired?

- What are the priorities among the needed resources?
- What other resources are necessary or desirable for PBTE?

Administration of the PBTE Program

- What departmental reorganization should be done to facilitate implementation?
- What institution or department policies and/or procedures will need to be changed to accommodate PBTE?
- How shall teaching loads be modified to meet the needs of PBTE?
- What staff duties will need to be changed or added?
- What new staffing requirements will there be?
- How shall certification be provided under the PBTE program?
- What agreements and arrangements need to be worked out with local school systems?
- What other administrative decisions will need to be made to implement PBTE?

Program Costs and Funding

- How will PBTE modules and instructional resources be purchased?
- How will tuition and fees be assessed?
- What extra operational costs (if any) are involved?
- What extra program start-up costs are required?
- What sources of additional funds are available?
- How best may available funds be tapped?
- What other financial questions are likely to arise?

Program Evaluation and Refinement

- What arrangements will be made to maintain communication and share data with other PBTE institutions?
- How will student reaction and response to PBTE be obtained?
- What arrangement will be made to gather data on PBTE program effectiveness?

- How will data generated in the program be utilized for evaluation and refinement?
- Who shall be responsible for evaluating the PBTE program?
- What other evaluation questions should be considered?

PBTE Advisory/Steering Committees

Teacher education institutions and public agencies should consider forming an advisory or steering committee to help give direction and smooth the transition to PBTE. A professional development unit of a local school system may find this particularly appropriate inasmuch as such a committee is more directly accountable to the public and includes many groups and factions with which to communicate.

The PBTE advisory/steering committee should be made up of representatives of those groups heavily involved in PBTE as producers or consumers, and who have some special ability or viewpoint to contribute to the effort. In general, this may involve teacher educators, school administrators, inservice teachers, state department personnel, preservice vocational education students, and professional leaders. Specifically, the membership of a local education agency PBTE committee could include:

- Members of the professional development staff
- University teacher educators
- School principals
- Program supervisors
- Classroom teachers
- Professional association officers
- University students

The overall functions of either an advisory or a steering committee are to help guide the total effort toward PBTE, to present the needs and represent the viewpoints of their constituent groups, and to aid in the dissemination of information about PBTE principles and plans for implementation. The amount of responsibility, the specific duties assigned, and the final decision-making power of any such group will vary according to the needs of the program and the position of the education agency. The committee's function may be strictly an advisory one with little or no authority to implement decisions, or it may be a true steering committee with the responsibility for identifying problems, gathering information, and delegating to specified individuals the responsibility for solving problems.

Among the possible responsibilities and activities of an advisory or steering committee are the following:

- Study and review the proposed PBTE program
- Recommend or decide on broad policies
- Recommend or assign responsibilities to others
- Suggest solutions to concrete problems
- Express the needs and viewpoints of constituent groups
- Review instructional materials
- Bring information on PBTE program plans to the attention of constituent groups

Depending on its composition, the personal involvement of its members, and the responsibilities it is given, the advisory/steering committee may become a valuable support group and reservoir of expertise for the PBTE program director. Skillfully utilized and genuinely consulted, such a committee can also exert a great deal of positive influence on its represented populations.

Management Forms

The total task of implementing a PBTE program involves a considerable number of decisions to be made and direct actions to be taken. Viewed overall, the job may appear formidable, but by breaking the process into discrete actions, it becomes manageable. In this way, priorities can be assigned to the necessary actions, a sequence of events can be developed, and resources can be mobilized to accomplish each action.

One management tool that can be helpful to the program planner is a simple Plan of Action Form. Using this form, the necessary actions are identified and expressed in short statements and arranged in an approximate chronological sequence. A time frame in which the action is expected to be completed is assigned. The person or persons who are to take major responsibility are selected and their names entered opposite the action.

The Plan of Action Form that follows has been developed for implementing a PBTE program utilizing The Center's materials. An implementing institution should review the plan of action and make modifications in content or in sequence as appropriate to its educational environment. It may be that not all steps are required in a given institution, or that other steps should be added. For an inservice program being operated by a local school system, more extensive changes in the form may be necessary in order for the form to meet program needs.

PLAN OF ACTION
FOR IMPLEMENTING THE PBTE PROGRAM

ACTIONS TO BE TAKEN	BEGINNING AND COMPLETION DATES	PERSON(S) RESPONSIBLE
1. Identify basic characteristics of the program model		
2. Plan the program design		
3. Plan staff orientation workshop		
4. Conduct staff orientation workshop		
5. Select the modules to be used in the program: a. required		
b. elective or optional		
6. Acquire necessary copies of selected modules		
7. Sequence the modules to be used		
8. Plan student orientation to PBTE		
9. Conduct orientation sessions		
10. Conduct awareness activities for concerned others		
11. Outline procedures for selecting students		
12. Implement procedures for selecting students		
13. Plan staff responsibilities		

ACTIONS TO BE TAKEN	BEGINNING AND COMPLETION DATES	PERSON(S) RESPONSIBLE
14. Acquire required resource materials		
15. Acquire needed equipment		
16. Acquire optional resource materials		
17. Organize resource center		
18. Plan management system for resource center		
19. Implement management system for resource center		
20. Arrange for videotape studio/classroom		
21. Train personnel for videotaping		
22. Develop procedures for utilizing cooperating school field-sites		
23. Design student achievement record-keeping system		
24. Develop procedures for student grades and credit		
25. Arrange for needed additional support funds		
26. Plan faculty and staff program seminars		
27. Conduct faculty and staff program seminars		

PBTE PROGRAM PATTERNS

The Need

The transition to performance-based teacher education requires a number of fundamental decisions to be made by the institution or agency contemplating this change. There are several basic patterns for installing PBTE, with an almost infinite number of possible variations. The PBTE approach can be installed partially or fully, incrementally or all at once. The program administrator needs to study the possible alternatives and, if possible, with group cooperation determine a course of action. It is likely that each institution's solution to program development will be unique.

The Problem

Changing an existing traditional teacher education program to one using the principles of performance-based teacher education requires a careful analysis of the situation in the local institution. There may be facilitating elements such as an innovative faculty, a helpful administration, a bright student body, or an opportunity to inaugurate an entirely new program. There may also be a number of serious constraints such as a shortage of funds, a lack of cooperation by the local school system, or serious doubts on the part of faculty that PBTE is either desirable or feasible. Combinations of these factors will ultimately exert their influence to determine the form, direction, speed of change, and completeness of the resulting PBTE program. Some of the possible approaches to implementation are presented in the section that follows.

An Idealized Preservice Program

If one could install a preservice PBTE program in a college or in a school agency, starting with a "clean sheet of paper," and incorporating all the essential concepts of PBTE in all aspects of the program, it might exhibit many of the characteristics described in this section. This program description assumes the removal of all the traditional constraints of course structure, administrative procedures, and certification requirements. As far as is known, such a program does not actually exist at the present time.

- The student's professional preparation is individualized and personalized. To complete the program, students must be able to demonstrate the predetermined teaching competencies, but do not have to take any one prescribed set of learning experiences.

- Entering students confer with a resource person, and together they plan a program based on the student's personal professional needs, interests, and goals.

- All students are expected to demonstrate a central core of teaching competencies. Another set of competencies, while recommended, are negotiable, and are considered optional.

- As a student progresses through the PBTE program, his or her objectives may be replanned based on personal development and on needs determined by their experiences in the schools.

- There are no formal courses in the professional phase of teacher education. Instruction and performance assessment is based on high quality, tested materials, with students free to design alternative learning experiences in order to acquire the necessary competency. The teacher educators provide alternate and enriching learning experiences such as demonstrations, presentations, and observations.

- Resource persons are readily available to assist students in working through module learning activities, to suggest additional experiences, to critique student products and performance, and to help solve procedural problems.

- Regularly scheduled seminars of teacher trainees and resource persons are held to discuss mutual problems, share ideas, seek help, and improve interpersonal skills. Seminar groups are designed to provide a home base and reinforcement for what is basically an individual effort.

- Students begin their field experiences in the schools early in their educational program. Field and laboratory experiences continue all through the program. Students are in school classrooms and laboratories first as observers, aides, and assistants, then later as student teachers, and interns.

- Skilled practitioners who are teachers in the schools are part of the teacher education staff and function as resource persons.

- Secondary and post-secondary schools are an integral part of the teacher education program. In addition to providing field experiences for trainees, schools receive university help in upgrading the skills of their professional staff. Certain schools are designated as "Portal Schools." Portal schools have on the staff a large proportion of interns and beginning teachers, with a body of carefully selected experienced teachers functioning as teacher educators. The environment is one of support and assistance for the neophyte teachers.

- Students progress through the program at a rate based on their own learning style and achievement. Time is not a factor in the student's program of progress; mastery of competency is.

- During the field experience, students work on modules and specific objectives. The final assessment of teaching competence takes place in an actual school situation. The master teacher, university resource person, or school supervisor may assess student performance.

- Students may negotiate when, and under what conditions, they will demonstrate teaching competence (e.g., with what age group of students, in what setting, etc.)

- Credits are awarded to students on the basis of the number of modules successfully completed. Each module has an assigned value of a fraction of a semester hour (perhaps 1/4 or 1/2 credit hour depending on the difficulty of the competence and the typical time required to complete it). A student is expected to complete a minimum number of credit hours per semester. This procedure can be accommodated within standard university credit systems.

- Student letter-grades are replaced by a simple "Pass" - "No Credit" system. Students who meet the criteria of the modules are awarded a grade of "Pass" on their official records. Students not meeting the criteria have no entry made on their official records.

- Students are granted degrees by meeting the institution's standards for demonstrated teaching competencies and accumulating the minimum number of credit hours.

- Certification of teachers is by program approval, with the state requiring that the prescribed competencies and student assessment procedures be described.

- Upon completion of the program, students receive a standard certificate and a special PBTE transcript. The special transcript, which is sent to prospective employers, includes (1) a complete record of the teaching competencies demonstrated, and (2) evaluations of the student by resource persons.

- Results and outcomes of the instructional program are utilized to continuously modify and improve the program: students have feedback on their efforts to enhance their own achievement; the teacher education program as a whole is changed and refined in the light of student problems, student achievement, and professional assessment; identified teaching competencies are revised on the basis of research data.

The idealized program described above attempts to incorporate all of the intended advantages of PBTE and maximize its impact. Such programs, for all their impact, may not be optimal for a particular institution. Replacement of the existing structure

and traditions of teacher education institutions would be a major undertaking by faculty, students, and administration. All the problems of change and adjustment come at once and must be resolved rapidly or expediently. Most institutions will find it easier to develop the new PBTE program gradually, proceeding with the planned development as problems are solved and as resources allow. Other more transitional (and probably more feasible) approaches to the implementation of PBTE are presented in the sections that follow.

The Blending Approach

In this approach, performance-based modules are incorporated into existing teacher education courses. The program may start in a very small way, with perhaps just one teacher educator using PBTE materials in just one class as an experiment. As experience is gained, more teachers and more courses can become involved, until success is assured. A limited use of the blending approach may also serve as a part of the effort to make others aware of PBTE and to build acceptance as results are obtained. The modules can be chosen so as to form entire units within a course (e.g., a unit on "student assessment") or may be used for individual assignments on discrete tasks. They may constitute a small or a very large portion of the work of the course. Thus, part of the course would consist of traditional group instruction (e.g., lecture, discussion, projects) and part independent study through the use of instructional modules. Examples of courses into which selected Center modules have been successfully incorporated are given below.

GENERAL METHODS OF TEACHING

A-8 Develop a Course of Study
B-1 Determine Needs and Interests of Students
B-2 Develop Student Performance Objectives
B-3 Develop a Unit of Instruction
B-4 Develop a Lesson Plan
C-10 Introduce a Lesson
C-11 Summarize a Lesson
C-12 Employ Oral Questioning Techniques
C-13 Employ Reinforcement Techniques
D-1 Establish Student Performance Criteria
D-2 Assess Student Performance: Knowledge
D-3 Assess Student Performance: Attitudes
D-4 Assess Student Performance: Skills
D-5 Determine Student Grades
F-1 Gather Student Data Using Formal Data-Collection Techniques
F-2 Gather Student Data Through Personal Contacts
F-3 Use Conferences to Help Meet Student Needs

PSYCHOLOGY OF EDUCATION

C-5 Employ Simulation Techniques
C-13 Employ Reinforcement Techniques
C-14 Provide Instruction for Slower and More Capable Learners
F-2 Gather Student Data Through Personal Contacts
F-4 Provide Information on Educational and Career Opportunities

LABORATORY ORGANIZATION AND MANAGEMENT

Category E Instructional Management [entire category*]

SPECIAL METHODS OF VOCATIONAL TEACHING

A-4 Organize an Occupational Advisory Committee
A-6 Develop Program Goals and Objectives
A-9 Develop Long Range Program Plans
B-5 Select Student Instructional Materials
F-4 Provide Information on Educational and Career Opportunities
F-5 Assist Students in Applying for Employment or Further Education

Category C Instructional Execution [entire category*]
Category E Instructional Management [entire category*]

PRINCIPLES OF VOCATIONAL EDUCATION

A-11 Evaluate Your Vocational Program
I-1 Keep Up-to-Date Professionally
I-2 Serve Your Teaching Profession
I-3 Develop an Active Personal Philosophy of Education
I-4 Serve the School and Community

PRINCIPLES AND PRACTICES OF COOPERATIVE EDUCATION

Category J Coordination of Cooperative Education [entire category*]

The examples given here represent only a few of the possible ways in which combinations of modules can be used in any teacher education program. The module selection should be made, of course, on appropriateness to the class objectives and their adjudged superiority to traditional methods of presenting the subject matter. They must not be used simply as outside reading assignments, or as an attempt to reduce the load of the education professor (properly used, they will not reduce the load).

*For a list of the titles of these modules, see the "Vocational Teacher Competency Profile" chart, p. 38.

When incorporating modules into an existing course, individualized learning and demonstrated performance would still be utilized. The final learning experience should be undertaken in an actual school situation during student teaching or other field experience. If the blending approach is used, there is less urgent need to make hard decisions about student credit for completed modules, course grades, and record keeping. These matters tend to be handled informally by the teacher educator in the context of his or her education course.

The blending approach may tend to reduce some of the effectiveness of the modules, but it certainly makes for a relatively easy transition to a more complete PBTE program. Both teacher educators and students can become familiar with their new roles, and some of the management problems can be solved within a limited-use setting.

Course Substitution or Course Translation

A somewhat more advanced implementation of PBTE is the course substitution approach (sometimes called the conservational approach). This takes into consideration the existing teacher education program and provides for the substitution of the entire professional coursework into the performance-based mode. One, two, or three courses in the professional sequence can be converted to learning experiences contained within a series of modules. The essential elements of individualized instruction and demonstrated performance are all retained. Completion of the selected required modules gives students credit for the course. Such a course can be time-based (i.e., the work of the students is to be completed within the semester or quarter) or time-free, with students working entirely at their own rate.

An advantage of the course substitution approach is that the group of PBTE courses can form a pilot program without full commitment of resources and without extensive reorganization of the teacher education program. Gradual change is possible, which eases the stresses involved. This approach also allows time for solutions to be found and time for people to adjust.

If course substitution is adopted, it will be necessary to make a study of available modules in order to determine the ones that are basically equivalent to the existing courses. It will also be necessary to come to some definite decisions about the number of modules that must be completed for a credit hour, and on what basis grades will be awarded.

A possible disadvantage is that the full benefit of the PBTE approach may not be effected. Without proper supervision and faculty commitment, the courses might gradually degenerate into their former traditional mold. Opposition to PBTE within the institution may be given time to solidify. Course substitution

may, however, be the only option possible if resources are limited and faculty acceptance is not complete.

Alternate Parallel Program

Some institutions have found it advantageous to begin the implementation of PBTE by setting up an alternative to their existing traditional teacher education program. The PBTE program operates, usually on a smaller scale, alongside the regular program, sharing facilities and other resources. A volunteer group of students is recruited for the program, served by a selected faculty committed to PBTE. Special arrangements may be made with the local schools for field experiences. An additional allotment of funds may be made to build the program. Certification of graduates may be done under an "experimental program" clause in certification requirements.

With the alternate program approach, the institution may find it easier to try out all aspects of a PBTE program, incorporating all the desired elements. Because the program is on a small scale, mistakes need not become disasters. Information-gathering and program evaluation can be built into the program and used as a basis for decisions affecting implementation of a full-scale program. Because both students and faculty are voluntary participants, there is a built-in factor for success. Time and resources are available to solve problems.

The alternate program may be a relatively costly one, however. Materials must be purchased or developed, faculty trained, facilities provided, and special organizational patterns set up. This all must be done as additions to the regular program, and all for a relatively small group of students. Some undesirable rivalry may develop between the two programs, each attempting to increase its share of available resources and administrative support.

Occupational Service Area Program

A university with a vocational education program which includes preparation in several of the major occupational service areas might inaugurate PBTE by installing it in one or two of the areas. This has many of the same characteristics as the alternate parallel program approach in that it allows a tryout of the program on a smaller, more manageable scale. When installation problems have been worked out of the program, PBTE can be expanded to cover all service areas. The Center's PBTE modules are designed to be equally appropriate and applicable to all service areas.

The service area in which implementation of the PBTE program is to begin should be selected so as to maximize its chances for success. Some attributes of the program should be (1) a strong faculty, knowledgeable about PBTE, (2) a program chairman committed to PBTE, (3) a good cooperative relationship with the

corresponding local school program, and (4) cooperating school personnel who have the ability and training to function effectively as field resource persons.

Inservice Teacher Education

It may be that one of the most important contributions to education made by the PBTE concept, and The Center PBTE modules will be in the inservice education or professional development of teachers. PBTE has enormous potential for the inservice education of vocational teachers; experienced teachers who wish to improve their professional performance, and on-the-job teachers newly recruited from business and industry. All of the advantages of individualized performance-based education pertain, but PBTE's characteristics of personalized training, independent learning, and time-free structure become especially preeminent.

Implementation of teacher education modules in inservice programs will usually require less program reorganization than in preservice programs. Actual classroom situations for practicing and demonstrating competencies will be more readily available. There are fewer constraints on time, and the complication of awarding academic credit may or may not be involved. Conversely, it may be more difficult to provide qualified resource persons when they are needed. Peer group interaction, desirable for some modules, can sometimes be difficult to arrange.

An Idealized Inservice Program

- The teacher's professional development program is individualized and personalized. Success in the program is based on demonstrated proficiency, not formal coursework.
- The inservice teacher's program of training is based largely on the teacher's expressed and observed needs, rather than on a prescribed program of studies.
- With the help and guidance of the resource person, the teacher develops a set of competency goals and determines priorities for their achievement.
- A resource person is regularly available to observe the teacher at work, confer about learning activities and problems, and critique the teacher's performance.
- While there are no formal courses, small-group and seminar sessions are arranged to help teachers work on their common professional development problems and discover possible courses of action.
- Teachers proceed at their own rate to complete the modularized learning activities and achieve proficiency in specific competencies.

- The inservice teacher uses his or her own student groups to practice the teaching skill and to demonstrate final proficiency.

- A qualified resource person (from within the school system or from a university program) assesses the teacher's performance of the competency in the actual school situation.

- University credit, professional improvement points, and professional certification are based on achievement of competencies rather than on completion of formal coursework.

The selection of competencies for inservice teachers, and especially for experienced teachers, needs to be an individualized process. Teachers will typically have a wide range of teaching experience, ranging from the beginning teacher recruited from industry and completely without classroom experience, to the master teacher who seeks to acquire advanced skills and refresh his or her teaching methods. With the assistance and guidance of a resource person, each teacher can select objectives according to personal professional needs.

A special concern of the field-based, inservice teacher program is that of providing resource persons. The field resource person needs to be available to the teacher during the day or evening to guide learning activities and to assess terminal objectives in the actual school situation. Resource persons will also be needed to arrange group activities when these are appropriate and to help the teacher arrange for the necessary learning experiences and locate resources.

The resource person for the field-based program may, of course, be a university teacher educator, but this is certainly not a requirement. The resource person could just as well be an occupational program supervisor, a personnel development worker, a school principal, or a master teacher. Staff development programs, possibly provided through a teacher education institution or sponsored by a state department of education, can provide the necessary training for prospective resource persons.

Special attention may also be required to assure the availability of module resource materials where a PBTE resource center is not conveniently located to the schools. The Center's PBTE modules, which are essentially self-contained, do not present any great problems in this regard, and the resource person can be given the responsibility of distributing any required or optional resources when they are needed.

If a large number of interns or beginning teachers are placed in the same school, it is easier to organize an effective PBTE program. A site resource person can be assigned to the school to work with all teachers, a small resource center can be set up, the videotaping of teacher performance and teacher assessment

become routine procedures, and group interaction among those working on modules is feasible.

An inservice professional development program should be just that: a structured program that is designed and maintained to assist teachers to improve their professional competence. Care must be taken to keep these activities separate from teacher assessment for salary increases or promotions. The number of modules completed, the results of the final performance assessment, the kinds of learning activities selected, should not be used as factors in the school administrator's annual teacher assessment procedures.

In the section that follows, examples are given of how The Center's PBTE modules have been successfully implemented in ongoing inservice programs.

Holland College, Prince Edward Island, Canada, uses The Center's PBTE modules as the core of their own staff development program. This is especially appropriate because the entire curriculum of the college is organized on the principles and practices of competency-based instruction. Professional improvement is built into the agreement on conditions of staff employment, and a local certification program provides further incentive for the college teachers to enhance their skills.

Teachers determine the competencies they wish to achieve by consulting a number of inputs; from student ratings, observation by department heads, and interviews with the head of the professional development program using Holland College's own "Teacher Competency Profile" as a basis. The teacher has ultimate responsibility for selecting a series of modules to be completed, and determining the priority for achieving the skills. The professional development officer provides overall supervision of each individual's program, and assists in organizing group activities and providing facilities for the modules' learning experiences. Fellow teachers in the college who are approved as resource persons, make the assessments of the teacher's performance of each skill. The teacher's own classes are utilized for practice and for demonstrating proficiency. A small but well-organized resource center, containing all the needed materials and media equipment, is provided for the teachers' use.

It is extremely important in this implementation pattern that the college teachers who are to serve as resource persons be qualified and given proper training for their role, and that they be provided the necessary time from their other teaching responsibilities. The success of such a program also hinges on the idea that the use of the modules for improving teaching is seen by the staff as an instrument for personal benefit, not as an administrative threat.

Several universities in sparsely populated areas use The Center's PBTE modules in their courses for inservice teachers.

The university teacher educator travels to a regional center once a week and conducts a seminar for the teachers in that area. The problems that the teachers have identified in their work on the modules become the focus of the seminar, with the teacher educator abandoning the traditional role of the lecturer and assuming that of the resource person. Simulation and practice activities as suggested in the modules are part of the seminar. Facilities and media equipment of the regional center could be used for these activities. In order to complete the assessment of the teachers' final performance, the resource person arranges a schedule and visits the teachers' schools during their teaching hours. Teachers can continue to work on the modules in their own schools, at home, at the learning centers, or on the university campus, as is convenient.

Temple University's well-established program, VITAL (Vocational Intern Teaching Applied Learning), is unique in that it is essentially field-based. It is designed particularly for inservice vocational teachers without previous vocational teacher preparation. There are a number of these "teaching interns" in each of the school sites, served by a resident resource person (a master teacher) and a field resource person who is a member of the university faculty. A group of 30 of The Center's modules have been selected as the required professional education core of the VITAL program (see Section V for a listing). Resource persons and interns come to agreement on the sequence of competencies that the intern is to pursue.

In order to achieve demonstrated proficiency, the intern may "test out" on the competence, or may complete the learning activities of the module. Assessment of the intern's final performance relies heavily on the use of videotapes so that the university-based resource person does not need to arrange to be present at the school when the demonstration lesson is being presented. Practice and demonstration performances utilize the intern's own courses and student groups.

Because a large number of interns are involved in the program, each one of whom is working on a personal program which includes many teaching competencies, the VITAL program has developed a computerized management system. The resource person or program coordinator can call up at any time the status and progress of any intern's program.

One university with a large undergraduate preservice vocational education program gives students an intensive experience in one series of The Center's PBTE modules. Students who are just about to enter the student teaching phase of their program are enrolled in a full-time one-week workshop in which they concentrate on the last five modules in the D Category, "Instructional Evaluation." The cognitive and practice elements of these five modules are completed on the university campus under the direction of a teacher educator, with students working individually and in small

groups. The student teachers then move out to their assigned schools, and during the several weeks of student teaching, they face the practical problems of evaluation and are assessed on their actual performance. This pattern of study places a heavy work load on student teachers and resource persons alike, but it provides instruction on evaluation just when the students are ready to apply it, thus creating a powerful motivation for success.

Specialized and innovative patterns for implementing The Center's PBTE curricula materials are being developed at a number of teacher education institutions and education agencies. The Center for Vocational Education, through its Professional Development in Vocational Education Program, will continue to monitor these efforts and gather information about them that will be made available to interested educators in the future.

SELECTION OF TEACHER COMPETENCIES FOR THE PBTE PROGRAM

The selection of teacher competencies for inclusion in the teacher education program is crucial to the entire process of program design that follows. Unfortunately, this important task is often not afforded the time, concern, or intellectual rigor it deserves. Teacher competencies, in this context, refer to skills required to perform given tasks that are part of the teacher's professional role, and the associated knowledge and attitudes needed for effective performance.

Many procedures have been used in recent program development work to identify the total range of essential teacher competencies for PBTE programs. These include program translation, task analysis, needs of school learners, models of teaching and learning, and the cluster approach. The model curricula project conducted by The Center for Vocational Education identified a list of 384 performance elements (competencies) appropriate for vocational and technical teachers. A detailed description of the research procedures used in this study is included in the Resource Person Guide to Using Performance-Based Teacher Education Materials.

In The Center project, the 384 performance elements have been incorporated into 100 instructional modules, each module delivering on one or more of the elements. A complete listing of the module titles and their organization by categories is given in the "Vocational Teacher Competency Profile," p. 38.

The starting point, then, of an institution's effort to plan its PBTE program should be to examine these objectives in the light of the needs of the students, the requirements of the profession, and the resources of the institution itself.

Examples of how the instructional modules may be organized into a unified program for the preservice or inservice education of teachers are presented later in this section. It is, however, the ultimate responsibility of the institution or agency (and specifically its faculty and staff) to design the program by examining its priorities and making professional judgments. The teacher competencies may be identified and verified by empirical research; the final selection of competencies will be derived from the values of the faculty.

The Preservice Program

It must be remembered throughout the process of selecting competencies for the teacher education preservice program that the competencies selected should be those essential to the beginning teacher entering the classroom as a professional for the first time--not those needed by an experienced and fully-functioning practitioner. Even if it were administratively possible, it is not reasonable, feasible, or necessary for trainees

*Profile continued on next page

VOCATIONAL TEACHER COMPETENCY PROFILE

Name _____ Address _____

Institution _____ Date Started _____

Resource Person(s) _____

These competencies represent the titles of 100 PBTE modules which have been developed, field tested, and revised by The Center for Vocational Education. The modules address all of the 384 performance elements identified in research conducted by The Center as important to secondary and post-secondary vocational teachers. These modules and three supporting documents—a student guide, a resource person guide, and an administrators guide will be published by American Association for Vocational Instructional Materials (AAVIM), Engineering Center, Athens, Georgia 30602.

PBTE

Supporting Materials

Guide to the Implementation of Performance Based Teacher Education by Glen E. Fardig, Robert E. Norton, and James B. Hamilton.

Resource Person Guide to Using Performance Based Teacher Education Materials by James B. Hamilton and Karen M. Quinn.

Student Guide to Using Performance Based Teacher Education Materials by Robert E. Norton and May Huang.

THE CENTER FOR VOCATIONAL EDUCATION
The Ohio State University 1960 Kenny Road Columbus Ohio 43210

November 1976

Category		Competencies			
A	Program Planning, Development, and Evaluation (11 modules)	A-1 Prepare for a Community Survey	A-2 Conduct a Community Survey	A-3 Report the Findings of a Community Survey	A-4 Organize an Occupational Advisory Committee
B	Instructional Planning (6 modules)	B-1 Determine Needs and Interests of Students	B-2 Develop Student Performance Objectives	B-3 Develop a Unit of Instruction	B-4 Develop a Lesson Plan
C	Instructional Execution (29 modules)	C-1 Direct Field Trips	C-2 Conduct Group Discussions, Panel Discussions, and Symposiums	C-3 Employ Brainstorming, Buzz Group, and Question Box Techniques	C-4 Direct Students in Instructing Other Students
	Instructional Execution (Cont'd)	C-12 Employ Oral Questioning Techniques	C-13 Employ Reinforcement Techniques	C-14 Provide Instruction for Slower and More Capable Learners	C-15 Present an Illustrated Talk
	Instructional Execution (Cont'd)	C-23 Present Information with Overhead and Opaque Materials	C-24 Present Information with Filmstrips and Slides	C-25 Present Information with Films	C-26 Present Information with Audio Recordings
D	Instructional Evaluation (6 modules)	D-1 Establish Student Performance Criteria	D-2 Assess Student Performance: Knowledge	D-3 Assess Student Performance: Attitudes	D-4 Assess Student Performance: Skills
E	Instructional Management (9 modules)	E-1 Project Instructional Resource Needs	E-2 Manage Your Budgeting and Reporting Responsibilities	E-3 Arrange for Improvement of Your Vocational Facilities	E-4 Maintain a Filing System
F	Guidance (5 modules)	F-1 Gather Student Data Using Formal Data Collection Techniques	F-2 Gather Student Data through Personal Contacts	F-3 Use Conferences to Help Meet Student Needs	F-4 Provide Information on Educational and Career Opportunities
G	School Community Relations (10 modules)	G-1 Develop a School Community Relations Plan for Your Vocational Program	G-2 Give Presentations to Promote Your Vocational Program	G-3 Develop Brochures to Promote Your Vocational Program	G-4 Prepare Displays to Promote Your Vocational Program
H	Student Vocational Organization (6 modules)	H-1 Develop a Personal Philosophy Concerning Student Vocational Organizations	H-2 Establish a Student Vocational Organization	H-3 Prepare Student Vocational Organization Members for Leadership Roles	H-4 Assist Students in Developing and Financing a Yearly Program of Activities
I	Professional Role and Development (8 modules)	I-1 Keep Up to Date Professionally	I-2 Serve Your Teaching Profession	I-3 Develop an Active Personal Philosophy of Education	I-4 Serve the School and Community
J	Coordination of Cooperative Education (10 Modules)	J-1 Establish Guidelines for Your Cooperative Vocational Program	J-2 Manage the Attendance, Transfers, and Terminations of Co-Op Students	J-3 Enroll Students in Your Co-Op Program	J-4 Secure Training Stations for Your Co-Op Program

COMPETENCY RATING SCALE

1 Poor	The teacher is unable to perform this skill or has only very limited ability to perform it	3 Good	The teacher is able to perform this skill in an effective manner
2 Fair	The teacher is unable to perform this skill in an acceptable manner but has some ability to perform it	4 Excellent	The teacher is able to perform this skill in a very effective manner

Competencies

A-5 Maintain an Occupational Advisory Committee	A-6 Develop Program Goals and Objectives	A-7 Conduct an Occupational Analysis	A-8 Develop a Course of Study	A-9 Develop Long Range Program Plans	A-10 Conduct a Student Follow-Up Study	A-11 Evaluate Your Vocational Program
B-5 Select Student Instructional Materials	B-6 Prepare Teacher-Made Instructional Materials					
C-5 Employ Simulation Techniques	C-6 Guide Student Study	C-7 Direct Student Laboratory Experience	C-8 Direct Students in Applying Problem-Solving Techniques	C-9 Employ the Project Method	C-10 Introduce a Lesson	C-11 Summarize a Lesson
C-16 Demonstrate a Manipulative Skill	C-17 Demonstrate a Concept or Principle	C-18 Individualize Instruction	C-19 Employ the Team Teaching Approach	C-20 Use Subject Matter Experts to Present Information	C-21 Prepare Bulletin Boards and Exhibits	C-22 Present Information with Models, Real Objects, and Flannel Boards
C-27 Present Information with Televised and Videotaped Materials	C-28 Employ Programmed Instruction	C-29 Present Information with the Chalkboard and Flip Chart				
D-5 Determine Student Grades	D-6 Evaluate Your Instructional Effectiveness					
E-5 Provide for Student Safety	E-6 Provide for the First Aid Needs of Students	E-7 Assist Students in Developing Self-Discipline	E-8 Organize the Vocational Laboratory	E-9 Manage the Vocational Laboratory		
F-5 Assist Students in Applying for Employment or Further Education						
G-5 Prepare News Releases and Articles Concerning Your Vocational Program	G-6 Arrange for Television and Radio Presentations Concerning Your Vocational Program	G-7 Conduct an Open House	G-8 Work with Members of the Community	G-9 Work with State and Local Educators	G-10 Obtain Feedback about Your Vocational Program	
H-5 Supervise Activities of the Student Vocational Organization	H-6 Guide Participation in Student Vocational Organization Contests					
I-5 Obtain a Suitable Teaching Position	I-6 Provide Laboratory Experiences for Prospective Teachers	I-7 Plan the Student Teaching Experience	I-8 Supervise Student Teachers			
J-5 Place Co-Op Students on the Job	J-6 Develop the Training Ability of On-the-Job Instructors	J-7 Coordinate On-the-Job Instruction	J-8 Evaluate Co-Op Students' On-the-Job Performance	J-9 Prepare for Students' Related Instruction	J-10 Supervise an Employer-Employee Appreciation Event	

to achieve all 384 competencies. The total of 384 competencies can be considered "lifetime professional skills"; a possible goal for the experienced vocational teacher.

Required core. Almost all PBTE programs require a core set of competencies to be achieved by teacher trainees if they are to be certified to teach. The Center's PBTE modules, of course, constitute only one area of the total teacher education program--the professional preparation area--so there will also be requirements in the areas of general education (or the humanities) and special technical education for vocational teachers.

In general, the selection and sequencing of teacher competencies should include the following considerations and processes:

- Define the needs involved in determining entry-level competencies; e.g., needs of education in the community, personal and professional needs of students, needs of the occupational service area, anticipated future educational change, and needs of pupils in the schools.

- Select from the total array of competencies those that best meet personal, professional, and societal needs.

- Establish priorities among the competencies by obtaining ratings by teacher educators, school personnel, skilled practitioners, and state education agency personnel. Attempt to establish group consensus.

- Consider and evaluate constraints on competency implementation; e.g., time constraints, service area requirements/licensure, limitations of institutional resources, limitations of faculty resources and expertise.

- Sequence the competencies, focusing on getting the trainee to function in an applied setting as soon as possible.

The matrix reproduced on the following page provides one graphic representation of the priorities and constraints, and how they might relate to each other. It can also serve a very useful purpose in helping to establish which competencies make the greatest contribution, and at what point in the total program. In employing the matrix, one actually places the identification number of each module being considered (see the Appendix of the Resource Person Guide for a master list of performance elements) into one of the four cells and then sequences the contents of each cell. Typically, a required core for an undergraduate preservice program will consist of 25 to 35 Center modules. Since many modules deliver on more than one competency, there may thus be from 60 to 100 teacher competencies comprising the core program.

Elective list. In addition to the required core of modules, most programs will want to develop an elective list of from 10

PERFORMANCE-BASED TEACHER EDUCATION PROGRAM

- COMPETENCY SELECTION -

	competency must be taught in the preservice program	competency can be taught on an inservice basis
competency makes a greater contribution to teacher success		
competency makes a lesser contribution to teacher success		

to 20 modules from which the student can choose a small number to include in his or her personal program. This list can be derived from the competencies appearing in the lower left cell of the competency selection matrix. These competencies are those that the faculty considers broadly as "highly desirable," but less than essential at this stage of the teacher's development. Students may make selections from the elective list on the basis of their personal interests, professional plans, and felt needs, with the assistance of a resource person.

Optional or free choice. It is possible that in its effort to make the preservice program as open and flexible as possible, a third category of modules may be listed. Students can be given the opportunity to make a perfectly free choice from among any of the published modules, for a small number of credits. No justification for the choice would be necessary.

The Inservice Program

There are three basic educational situations that determine the content and approach of the inservice teacher education program.

1. Teachers newly recruited from industry and without previous classroom experience need help in functioning effectively in the classroom.

2. Experienced teaching practitioners wish to increase their instructional skills and broaden their preparation so as to improve their effectiveness or to function in new aspects of the teacher's role.

3. New or experienced teachers need to satisfy certification or university degree requirements.

It is possible that the same competencies used in the required core of the preservice program could be used in a program for newly recruited inservice teachers. Such a program, however, is not likely to be fully suited to the needs of such teachers. The inservice program should be very responsive to teacher's needs, with each program virtually tailor-made for the individual. State requirements, agency policies, and/or certification requirements must, of course, be met. The resource person, working with the teacher, should help the teacher assess his or her priority needs and select learning modules that deliver on those competencies. An inservice module list can be developed to provide a framework in which to plan.

The section that follows presents a number of preservice and inservice core programs as developed by various teacher training institutions. They are given here so that other institutions can either adopt one of the program series as given, or can adapt it to meet local needs and conditions. PBTE programs already developed definitely appear to suggest that teacher educators formerly

did not spend enough time in certain areas of pedagogy, and spent too much in others. It is evident that the equivalent of three courses should have been offered in the area of instructional materials and methods (the modules' Instructional Planning and Execution categories), with two courses at the undergraduate level and one course at the graduate level.

The Center is continuing to gather information from institutions which have implemented the PBTE curricula program, and will make these competency selections available to others. In the lists that follow, the module numbers and titles* are those of The Center's PBTE modules as given on the "Vocational Teacher Competency Profile."

*Note: Some of the module titles on the lists which follow were taken from an August 1975 version of the "Vocational Teacher Competency Profile." While the topical areas remain the same, some of the module titles were slightly changed in the final module refinement process. The November 1976 version of the Vocational Teacher Competency Profile contained in this Guide reflects those changes as do the titles of the module groupings for various courses listed on pp. 28-29.

I. The following series of modules was selected for the VITAL Program at Temple University. This program is designed as a field-based program for inservice vocational teachers without previous vocational teacher preparation.

Module No.	Module Title
B-1	Determine Needs and Interests of Students
B-2	Develop Student Performance Objectives
B-3	Plan a Unit of Instruction
B-4	Write a Lesson Plan
B-5	Select and Obtain Student Instructional Materials
B-6	Prepare Teacher-Made Instructional Materials
C-2	Conduct Group Discussions, Panel Discussions, and Symposiums
C-4	Direct Students in Instructing Other Students
C-6	Direct Student Study
C-7	Direct Student Laboratory Experience
C-8	Direct Students in Applying Problem-Solving Techniques
C-9	Direct the Project Method
C-10	Introduce a Lesson
C-11	Summarize a Lesson
C-12	Employ Oral Questioning Techniques
C-13	Employ Reinforcement Techniques
C-15	Present Information Through an Illustrated Talk
C-16	Demonstrate a Manipulative Skill
C-17	Demonstrate a Concept or Principle
C-21	Illustrate with Bulletin Boards and Exhibits
C-22	Illustrate with Models, Real Objects, and Flannel Boards
C-23	Present Information with Overhead and Opaque Materials
C-29	Present Information with the Chalkboard and Flip Chart
D-1	Establish Criteria for Student Performance in a Vocational Education Program
D-5	Determine Student Grades in a Vocational Program
E-5	Provide for the Safety Needs of Vocational Students
E-8	Organize the Vocational Laboratory
E-9	Manage and Maintain the Vocational Laboratory
G-7	Conduct an Open House
I-3	Establish and Maintain a Professional Philosophy of Education

Total: 30 modules

II. In an EPDA Project entitled "Competency Based Teacher Education for Vocational Teacher Educators of New England," a study was made to identify a list of essential preservice and inservice modules. Participants in the study were 55 vocational educators, representing many levels and occupational service areas. The modules are listed in order of their rating of importance as given by the respondents.

NEW ENGLAND PRESERVICE PROGRAM

Module No.	Module Title
B-2	Develop Student Performance Objectives
B-3	Plan a Unit of Instruction
B-4	Write a Lesson Plan
B-5	Select and Obtain Student Instructional Materials
B-6	Prepare Teacher-Made Instructional Materials
C-7	Direct Student Laboratory Experience
C-8	Direct Students in Applying Problem-Solving Techniques
C-10	Introduce a Lesson
C-11	Summarize a Lesson
C-12	Employ Oral Questioning Techniques
D-6	Evaluate Instructional Effectiveness
I-3	Establish and Maintain a Professional Philosophy of Education
I-5	Select, Obtain, and Maintain a Teaching Position in Keeping with Your Professional Qualifications
B-1	Determine Needs and Interests of Students
C-13	Employ Reinforcement Techniques
C-17	Demonstrate a Concept or Principle
C-18	Direct Individualized Instruction
D-1	Establish Criteria for Student Performance in a Vocational Education Program
D-2	Assess Student Cognitive Performance
D-4	Assess Student Psychomotor Performance
D-5	Determine Student Grades in a Vocational Program
E-5	Provide for the Safety Needs of Vocational Students
E-6	Provide for the First Aid Needs of Vocational Students
E-7	Assist Students in Developing Self-Discipline
E-8	Organize the Vocational Laboratory

Module No.	Module Title
C-6	Direct Student Study
C-14	Provide Instruction for Slower and More Capable Students
I-1	Keep Up-to-Date in Your Profession and in Your Occupational Specialty
A-6	Develop Vocational Education Program Goals and Objectives
C-9	Direct the Project Method
E-9	Manage and Maintain the Vocational Laboratory
C-15	Present Information Through an Illustrated Talk
E-4	Maintain a Filing System
I-2	Serve Your Teaching Profession
D-3	Assess Student Affective Performance
C-23	Present Information with Overhead and Opaque Materials
I-4	Serve the School and Community
C-24	Present Information with Filmstrips and Slides
A-7	Conduct an Occupational Analysis
C-2	Conduct Group Discussions, Panel Discussions, and Symposiums
C-25	Present Information with Films
C-22	Illustrate with Models, Real Objects, and Flannel Boards
A-8	Develop a Course of Study
A-11	Evaluate Your Vocational Program
C-26	Present Information with Audio Recordings
C-29	Present Information with the Chalkboard and Flip Chart
H-1	Develop a Personal Philosophy Toward Student Vocational Organizations
C-3	Stimulate Learning Through Brainstorming, Buzz Group, and Question Box Techniques
A-4	Organize or Reorganize an Occupational Advisory Committee
C-9	Cooperate with State and Local Educators
F-4	Provide Information on Educational and Career Opportunities
C-1	Direct Individual and Group Field Trips
E-1	Project Instructional Resource Needs
C-21	Illustrate with Bulletin Boards and Exhibits
C-4	Direct Students in Instructing Other Students
F-5	Assist Students in Applying for Employment or Further Education
A-5	Maintain an Occupational Advisory Committee

Total: 58 modules

NEW ENGLAND INSERVICE PROGRAM

For tradesmen who are to enter teaching directly from an occupational area

Module No.	Module Title
D-1	Establish Criteria for Student Performance in a Vocational Education Program
D-2	Assess Student Cognitive Performance
B-3	Plan a Unit of Instruction
B-4	Write a Lesson Plan
C-7	Direct Student Laboratory Experience
C-16	Demonstrate a Manipulative Skill
E-5	Provide for the Safety Needs of Vocational Students
B-2	Develop Student Performance Objectives
B-5	Select and Obtain Student Instructional Materials
C-10	Introduce a Lesson
C-11	Summarize a Lesson
C-17	Demonstrate a Concept or Principle
D-5	Determine Student Grades in a Vocational Program
C-12	Employ Oral Questioning Techniques
D-6	Evaluate Instructional Effectiveness
I-2	Serve Your Teaching Profession
B-6	Prepare Teacher-Made Instructional Materials
E-6	Provide for the First Aid Needs of Vocational Students
C-13	Employ Reinforcement Techniques
D-4	Assess Student Psychomotor Performance
E-8	Organize the Vocational Laboratory
I-3	Establish and Maintain a Professional Philosophy of Education
B-1	Determine Needs and Interests of Students
C-14	Provide Instruction for Slower and More Capable Students
E-9	Manage and Maintain the Vocational Laboratory
I-1	Keep Up-to-Date in Your Profession and in Your Occupational Specialty
I-5	Select, Obtain, and Maintain a Teaching Position in Keeping with Your Professional Qualifications
C-8	Direct Students in Applying Problem-Solving Techniques
D-3	Assess Student Affective Performance
A-6	Develop Vocational Education Program Goals and Objectives
A-7	Conduct an Occupational Analysis

Module No.	Module Title
E-7	Assist Students in Developing Self-Discipline
C-6	Direct Student Study
C-9	Direct the Project Method
C-15	Present Information Through an Illustrated Talk
E-4	Maintain a Filing System
A-11	Evaluate Your Vocational Program
C-18	Direct Individualized Instruction
C-29	Present Information with the Chalkboard and Flip Chart
I-4	Serve the School and Community

Total: 40 modules

III. Westfield State College, Westfield, Massachusetts, has identified the following series of modules for use in their preservice PBTE Program.

REQUIRED

Module No.	Module Title
B-1	Determine Needs and Interests of Students
B-2	Develop Student Performance Objectives
B-3	Plan a Unit of Instruction
B-4	Write a Lesson Plan
B-5	Select and Obtain Student Instructional Materials
B-6	Prepare Teacher-Made Instructional Materials
C-6	Direct Student Study
C-7	Direct Student Laboratory Experience
C-8	Direct Students in Applying Problem-Solving Techniques
C-9	Direct the Project Method
C-10	Introduce a Lesson
C-11	Summarize a Lesson
C-12	Employ Oral Questioning Techniques
C-13	Employ Reinforcement Techniques
C-14	Provide Instruction for Slower and More Capable Students
C-16	Demonstrate a Manipulative Skill
C-17	Demonstrate a Concept or Principle
C-18	Direct Individualized Instruction
C-22	Illustrate with Models, Real Objects, and Flannel Boards
C-23	Present Information with Overhead and Opaque Materials
C-29	Present Information with the Chalkboard and Flip Chart
D-1	Establish Criteria for Student Performance in a Vocational Education Program
D-2	Assess Student Cognitive Performance
D-3	Assess Student Affective Performance
D-4	Assess Student Psychomotor Performance
E-5	Provide for the Safety Needs of Vocational Students
E-6	Provide for the First Aid Needs of Vocational Students
E-7	Assist Students in Developing Self-Discipline
E-8	Organize the Vocational Laboratory
E-9	Manage and Maintain the Vocational Laboratory
F-1	Select and Use Appropriate Student Data-Collection Sources and Techniques
F-2	Gather Student Data Through Personal Contacts
F-3	Use Conferences to Help Students Meet Personal, Education, and Vocational Needs
F-4	Provide Information on Educational and Career Opportunities
F-5	Assist Students in Applying for Employment or Further Education

Total: 35 modules

ELECTIVE

Module No.	Module Title
C-2	Conduct Group Discussions, Panel Discussions, and Symposiums
C-4	Direct Students in Instructing Other Students
C-5	Employ Simulation Techniques
C-19	Conduct Team Teaching
C-20	Present Information Using a Subject Matter Expert
C-21	Illustrate with Bulletin Boards and Exhibits
C-24	Present Information with Filmstrips and Slides
C-25	Present Information with Films
C-26	Present Information with Audio Recordings
C-27	Present Information with Televised and Videotaped Materials
D-5	Determine Student Grades in a Vocational Program
E-1	Project Instructional Resource Needs
E-2	Prepare Vocational Budgets and Reports

Total: 13 modules

IV. Several teacher education institutions have developed short series of modules specially selected as a "survival kit" of immediate essential skills (IES). These are designed to help the vocational teacher newly recruited from industry and just entering the classroom. A typical IES list follows:

Module No.	Module Title
B-4	Write a Lesson Plan
B-5	Select and Obtain Student Instructional Materials
B-6	Prepare Teacher-Made Instructional Materials
C-7	Direct Student Laboratory Experience
C-9	Direct the Project Method
C-16	Demonstrate a Manipulative Skill
C-17	Demonstrate a Concept or Principle
D-2	Assess Student Cognitive Performance
D-4	Assess Student Psychomotor Performance
E-7	Assist Students in Developing Self-Discipline
C-10	Introduce a Lesson
C-11	Summarize a Lesson

V. Six campuses of the University of Nebraska have developed a teacher certification program based on the competencies included in The Center's PBTE curricula program. Required competencies have been identified for inservice vocational teachers who are working in post-secondary institutions. Teachers seeking approval for teaching through the competency-based option will, with the approval of their resource persons, develop an individual plan for achieving the specified competencies. Selections are to be made from a given list. During the first year, 14 competencies are to be mastered; during the second and third year the teacher is to become proficient in an additional 24 competencies. Mastery of the competencies satisfies the nine credit hour requirement. The Nebraska certification program is presented below, along with a form which is used for approval of the student's plan for competency-based certification.

PROFESSIONAL COMPETENCIES FOR VOCATIONAL TEACHERS
AT THE POST-SECONDARY LEVEL

* Section I. (50% in first year)

A. Program Planning:

8. Develop a course of study for a course you teach.

B. Instructional Planning:

1. Determine the needs and interests of the students in your class.
2. Write student performance objectives for a vocational course you are teaching.
3. Plan a unit of instruction for your class.
4. Write a lesson plan for a topic in your course.
5. Select and obtain instructional materials for your course.
6. Plan, prepare, and duplicate teacher-made instructional materials for a lesson.

C. Instruction:

10. Introduce a lesson.
11. Summarize a lesson.
2. Conduct a group discussion, a panel discussion, and/or a symposium.
6. Direct student study.
7. Direct student laboratory experience.
9. Direct students in acquiring skills, attitudes, or concepts via the project method.
15. Present information through an illustrated talk.
16. Demonstrate a manipulative skill.
17. Demonstrate a concept or principle.
18. Direct individualized instruction.
20. Present information using a subject matter expert.
22. Illustrate a lesson using flannel board, a model, or a real object.
23. Present information with an overhead projector.
29. Present information with the aid of a chalkboard or a flip chart.

D. Evaluation:

1. Establish criteria for student performance in a vocational education program in your occupational area.
2. Develop and administer a test to assess student cognitive performance for a unit.
4. Develop and administer evaluation devices to assess student psychomotor performance for a unit.

E. Instructional Management:

7. Assist students in developing self-discipline.

F. Guidance:

2. Gather student data through personal contacts.
3. Use conferences to help students meet personal, educational, and vocational needs.

I. Professional Role:

3. Demonstrate knowledge of the need for developing and maintaining a personal philosophy of education.

Section II. (35% in second and third year; may substitute from Section I.)

A. Program Planning, Development, and Evaluation:

1. Plan a community survey.
2. Conduct and analyze community survey data.
3. Report and use the findings of a community survey.
4. Organize or reorganize an occupational advisory council.
5. Maintain an occupational advisory council.
6. Develop Vocational Education program goals and objectives.
7. Conduct an occupational analysis.
9. Develop long-range plans for a Vocational Education program.
10. Conduct a student follow-up study.
11. Evaluate your Vocational Education program.

(Use any other competencies from Section I.)

B. Instructional Planning:

(Use any other competencies from Section I.)

C. Instruction:

1. Conduct individual and group field trips.
3. Stimulate learning through brainstorming, buzz group, and question box techniques.
4. Direct students in instructing other students.
5. Employ the techniques of role-playing and simulation.
8. Direct students in applying problem-solving techniques.
12. Use questioning techniques.
13. Employ reinforcement techniques.
14. Provide instruction for slower and more capable students.
19. Conduct team teaching.
21. Illustrate with bulletin boards and exhibits.
24. Present information with filmstrips and slides.
25. Present information with films.
26. Present information with audio recordings.
27. Present information with televised and videotaped materials.
28. Direct programmed instruction.

(Use any other competencies from Section I.)

D. Evaluation:

3. Develop and administer evaluation instruments to assess student affective performance.
5. Determine student grades in a vocational/course program.
6. Evaluate instructional effectiveness.

(Use any other competencies from Section I.)

E. Instructional Management:

1. Project needs for instructional resources for course/program.
2. Prepare budgets and reports for course/program.
3. Plan for expansion of facilities and purchase of supplies for vocational programs.
4. Maintain a filing system.
5. Provide for the safety needs of students.
6. Provide for the first aid needs of students.
8. Manage equipment and supplies in the laboratory.
9. Organize and maintain the laboratory.

(Use any other competencies from Section I.)

F. Guidance:

1. Select and use appropriate student data-collection sources and techniques.
4. Provide information on education and career opportunities.
5. Assist students in applying for employment or further education.

(Use any other competencies from Section I.)

G. School-Community Relations:

1. Develop a plan for school-community relations.
2. Give presentations to school and community groups to promote a vocational education program.
3. Develop brochures to inform others about the vocational education program.
4. Provide displays in the school and community on the vocational education program.
5. Prepare news releases and manuscripts to promote the vocational education program.
6. Plan, develop, and present television and/or radio programs to promote the vocational education program.
7. Conduct an open house.
8. Provide service to and maintain liaison with members of the community.
9. Cooperate with state and local educators.
10. Obtain feedback from the school and community concerning the vocational education program.

H. Student Vocational Organizations:

1. Develop a personal philosophy toward student vocational organizations.
2. Establish a student vocational organization.
3. Prepare students for leadership roles in the student vocational organization.
4. Assist students in developing and financing a yearly program of activities.
6. Provide learning experiences for vocational students through contests.

I. Professional Role and Development:

1. Keep up-to-date in your profession and in your occupational specialty.
2. Serve the profession.
4. Serve the school and community.

(Use G.1. from Section I. if not in previous selection.)

J. Coordination:

1. Establish criteria and guidelines for operating a cooperative vocational education program.
2. Establish and apply policies for managing student attendance, transfers, and terminations.
3. Identify and enroll prospective students.
4. Identify and secure prospective training stations.
5. Place a student on the job.
6. Develop the training ability of on-the-job instructors.
7. Coordinate and supervise on-the-job instruction.
8. Evaluate students on the job.
9. Plan and conduct related instruction.
10. Conduct an employer-employee appreciation event.

REQUEST FOR APPLICATION OF CREDIT

FOR

VOCATIONAL APPROVAL OF POSTSECONDARY INSTRUCTOR

(institution)

(date)

THIS FORM IS TO BE FILED IN THE OFFICE
PRIOR TO ENROLLING FOR APPROPRIATE STUDY

COMPETENCY OPTION

CREDIT HOUR OPTION

(student's name) (social security number)

THIS STUDENT HAS PERMISSION FOR THE FOLLOWING APPLICATION OF CREDIT TO BE EARNED FOR VOCATIONAL APPROVAL:

Department	Course No.	Credit Hours	Competency Cluster

(advisor)

(Registrar) (Division head approval)

DEVELOPMENT OF INSTRUCTIONAL MATERIALS

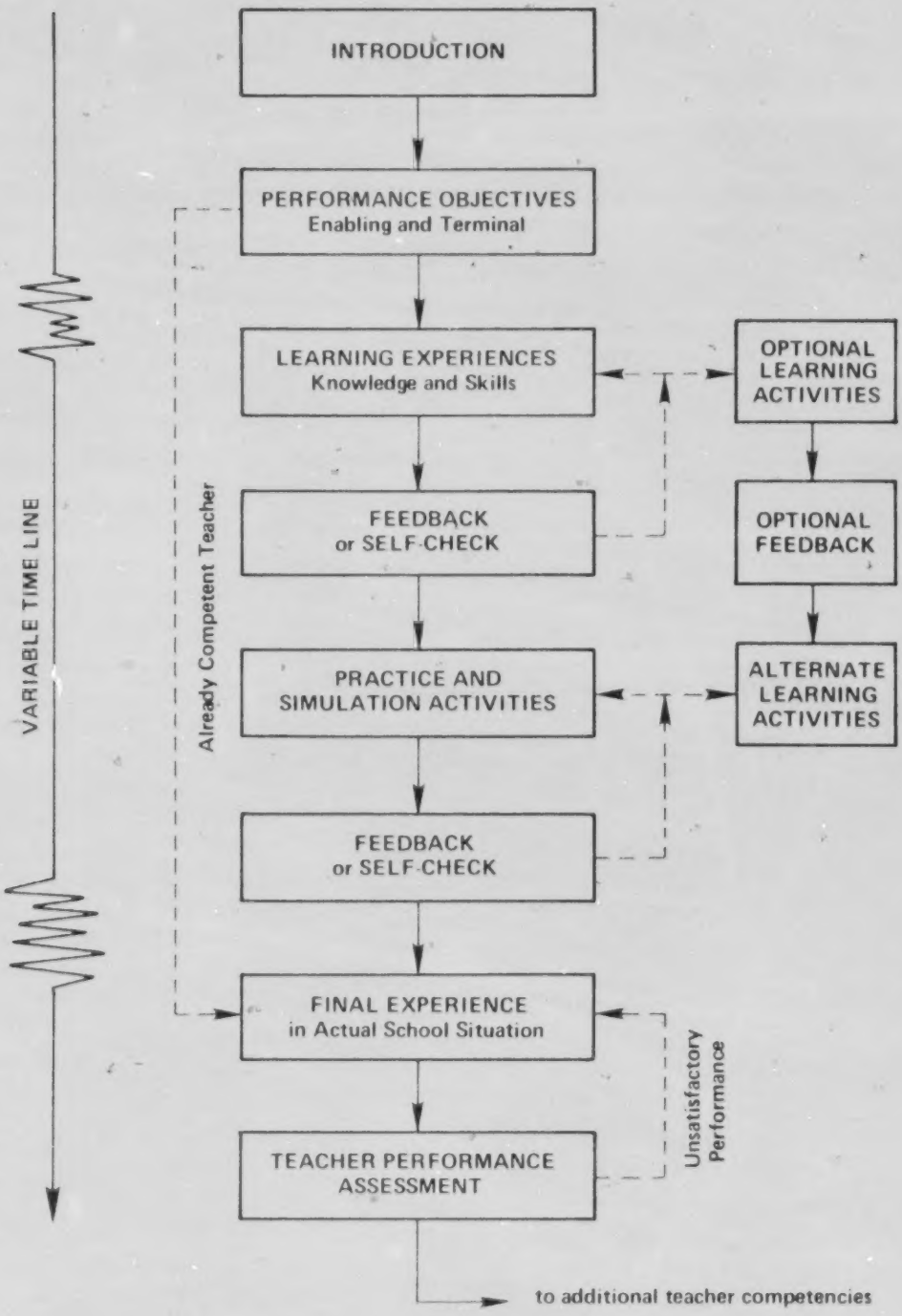
In many PBTE programs, and specifically at institutions using The Center's PBTE curricula materials, instruction is modularized. A Center module is a printed package containing a set of learning experiences designed to facilitate the teacher's acquisition and demonstration of one or more particular teacher competencies. Organizing the instructional program based on modules increases the possibilities for student self-pacing and individualization. It also promotes accurate aim toward specific competencies and incorporates performance assessment procedures that are relatively objective. Basically linear in instructional design, there is, however, provision for individualized learning activity options. Students who have already achieved the enabling objectives through previous experience can bypass certain learning experiences.

The three domains of learning are accommodated in The Center's model of modularized instruction. Provision for the student to acquire the essential cognitive knowledge and to develop the required level of performance is explicitly designed into the learning activities of each module. Many objectives may have either an intrinsic or implied affective element, even if the affective element does not appear in the module's objective statement. Opportunity for further affective development is possible through special experiences provided by the resource person and through the manipulation of the learning environment. A model of an instructional module, presenting a graphic representation of the learning sequence, appears on the following page.

An extensive description of the conceptualization of PBTE modules is contained in other Center documents and need not be repeated here. For a discussion of the characteristics of modules as they are being developed by many teacher education agencies, see Performance-Based Teacher Education: The State of the Art--General Education and Vocational Education. Another document, Resource Person Guide to Using Performance-Based Teacher Education Materials, describes in detail each component of a Center module, its structure, purpose, and use. It also contains an explanation of the extensive module development process, testing procedures, and revision process leading to the modules that are now available.

Modular instructional materials are being developed at universities, R&D centers, and state departments of education across the country. The overall quality, format, assessment procedures, and objectives of these modules vary widely. Some of these materials may be valuable to the PBTE program planner as a means of strengthening the total program, filling in instructional gaps, or making comparative evaluations of instructional materials. The program planner who wishes to inspect promising instructional modules will find references to possible sources in The Center's State-of-the-Art Report, both in the text and Appendices.

PERFORMANCE-BASED TEACHER EDUCATION
- MODULE INSTRUCTIONAL SEQUENCE -



The Center's PBTE modules are designed for both preservice and inservice application in any or all of the several service areas and program levels of vocational education. There may be conditions, however, in which additional "situation-specific" modularized materials can be developed by the implementing institution. Such conditions may include:

- A need for instructional materials dealing with teacher competencies that are not included in The Center's PBTE modules...competencies perhaps appropriate only to a specific institution and its education setting.

- A need for instructional skills (e.g., working in ghetto schools, dealing with minority groups, managing competency-based vocational programs) related to local community conditions.

- A need for modules to be used in the technical skills phase of the vocational teacher education program.

Institutions using preprepared instructional modules developed by others may wish to embark on an experimental project of developing special modules for their own needs. This is a feasible undertaking and one that can lead to the professional growth of the project staff. In order to have a reasonable chance for success and to be able to produce effective materials, however, several conditions should be met.

- For those using The Center's PBTE modules, the local modules should be in a format similar to those of The Center. Variable formats serve to confuse students and frustrate instruction, all to no good purpose. The format of The Center's PBTE modules has been thoroughly developed, extensively tested, and has proven to be effective with students.

- Ample personnel resources must be available. Module writing and development is a time-comsuming and expensive process, one that is often drastically underestimated.

- In order to ensure a measure of validity of the objectives, it is necessary to verify the proposed competencies by one of the accepted developmental processes (e.g., use of the Delphi procedure or the DACUM approach).

- The modules should undergo some small-scale testing and revision before being used throughout a program. Untested and unrefined modules are unlikely to be fully effective.

There are a number of texts, programmed books, and handbooks on the writing of modules. These resources may all prove helpful to the prospective writer. Each text, however, tends to promote its own program design and module format. Very specific assistance in developing instructional modules compatible with those produced at The Center for Vocational is contained in a handbook

designed for this purpose. The Handbook for the Development of Professional Vocational Teacher Education Modules, scheduled to be available from The Center; about July 1977, will describe each component of a module, suggest ways in which the component content can be organized, and provide samples of exemplary products.

Extensive experience in module development, and data-based evidence from both resource persons and learners has given The Center a unique understanding of the characteristics of effective modules. Among these are:

- Modules should be essentially self-contained. Readings, practice materials, forms, data, and other information needed by the learners should be within the module itself. Learners find the search for outside materials time-wasting and frustrating.

- The module should be organized in a simple, sequential pattern. The learner should be able to proceed straight through from front to back. Complex instructional paths and flow charts are neither necessary nor well accepted.

- A variety of presentation in the learning activities, practice activities, and feedback is highly desirable.

- The language of the module should be clear and straightforward. Scholarly presentations and educational jargon are inappropriate.

- The module must be seen to deliver on its stated objectives and competencies. It must clearly provide the experiences that will result in the learner achieving the desired proficiency.

- The content of the module (information and learner activities) must be on target and promote efficient learning. It must not include a quantity of information that is simply "nice to know" or "interesting."

- The final printed module must be of high quality: good reproduction, quality paper, professional illustrations. Learners quickly reject unattractive and difficult-to-use instructional materials.

In addition to developing situation-specific instructional modules, implementing institutions have a great opportunity to produce media materials for the PBTE program. Because performance-based education recognizes that learners have a diversity of individual learning styles, there are almost unlimited possibilities for augmenting, enriching, and varying the modules' learning activities. There are a number of significant advantages to adding locally-produced media materials to the PBTE program.

- Media can be developed to meet the specific needs of the local student body and the local educational situation. Prospective teachers who are culturally different, who may be working in schools with urgent and unique problems, who have special interests and concerns not shared by most others, may benefit greatly from locally-produced materials.

- Learners are more likely to accept and associate with media performers (e.g., teachers and resource persons demonstrating teaching techniques) who are familiar and trusted figures than they are to unknown outsiders. Even materials that are not slick professional productions are usually quite acceptable to local audiences.

- The cost can be very much lower than commercial software, with resource persons and teachers doing a great deal of the production. For example, a simple videotape of a local teacher performing in a classroom may be just as valuable in terms of instruction as a far more costly piece of media. The tape can be reused and thus the material can be kept up to date easily.

Media can be incorporated in The Center's PBTE materials in several ways. They can be used as required activities, augmenting or perhaps even replacing the materials already in a module. Media can be designed as optional or alternative learning activities to make the program more effective or attractive to learners. They can function as reinforcement or assistance to special groups of learners (e.g., information can be presented on audiotapes for learners with reading disabilities).

A few among the great many ways locally-produced materials can be used in The Center's PBTE modules are suggested here.

- Videotapes of actual teacher performances can enhance the use of almost any of the modules in Category C (Instructional Execution).

- Audiotapes can be produced by resource persons in the various occupational service areas to make the modules more personally effective to learners in the area. This includes presenting additional appropriate information, examples and illustrations, and special techniques.

- Slide/tape presentations can make instructional material more meaningful, using photographs of local vocational laboratories as in Category E (Instructional Management), or using local students in Category H (Student Vocational Organizations).

Full-blown, high-quality media materials can be quite expensive to produce and can consume an inordinate amount of production time. Special funding from the university or outside agency

may be necessary for this kind of effort. More modestly produced materials may be equally useful and far more feasible for the typical education institution to undertake. Videotapes of local teachers and students in the classroom are usually low in cost. Audiotapes are both easy and cheap to produce. Slide series or slide/tape presentations can be developed by the institution's media department, or they can even be made as teacher projects. Adding locally-developed mediated instructional materials to the PBTE program should probably be a continuous function of the implementing institution, as a means of increasing the effectiveness of the program.

INSTRUCTIONAL PROGRAM MANAGEMENT

The Need

The nature of performance-based teacher education creates new kinds of management situations and unique relationships among students, professional faculty, and staff members. When a program is individualized and based on independent learning modules, patterns of work and personal relationships emerge that may be quite different from those of group-based instruction. Depending on how the individual institution organizes its program, these differences can be minimized or they can be allowed to develop to their fullest extent.

Instructional Patterns

Program Alternative One. In attempting to make the transition to PBTE as smooth and stress-free as possible, the institution may consider as one program alternative the maintenance of as much of the traditional course and credit structure of higher education as possible. This allows faculty, staff, and students to function in roles with which they are already familiar through long experience. New organizational patterns, created by the PBTE requirements of field experience and real-world assessment, can develop gradually.

In a modularized course structure, a faculty member is assigned to work as instructor/resource person within the conventional professional education course. Each course is a semester or quarter long. In each course, the student completes all the learning experiences in a Center PBTE module up to the final learning experience in the required modules. After successfully completing a series of modularized courses, the student moves to the field setting of a typical student teaching or internship program. Final assessment of the specified competencies may then become the responsibility of the cooperating teacher (or "Directing Teacher") who supervises the field experience.

This well-established pattern makes the change to PBTE less traumatic for the administration as well as for students and faculty because existing structures and mechanisms of management can be utilized. It should also be recognized, however, that some of the old deficiencies of teacher education are retained, and some of the potential advantages of PBTE are lost.

Program Alternative Two. In a distinctly contrasting program alternative, any semblance of course or group structure is removed, and each student works in a completely independent fashion toward individual goals in a personally-determined time frame. Typically in such a program, each student proceeds through his or her preplanned program of competencies at a rate that is comfortable and provides success. The resource person is there whenever the student needs assistance or counsel. Occasionally, the resource person may call in the student for an informal check of progress or

to ascertain whether difficulties exist. There may be several resource persons available to the student in the process of completing a series of modules. Credits and estimates of progress are directly tied to the number of modules the student has completed.

The program may be entirely field-based, or the field experience may take place at any of several points in the student's professional training. A resource person would help to arrange for these experiences, and would assume responsibility for their supervision. Again, final assessment of competence would take place in an actual school situation, but might be supervised by the college resource person, the cooperating teacher, a site resource person, or a combination of these.

Such an individualized program places heavy responsibility on the student for self-direction and self-discipline, and knowing when and how to take advantage of the services of the resource persons. In order to maintain student momentum, it may be necessary to require students to complete a specified number of modules each semester. The resource person needs special ability to work effectively with students as individuals, rather than as persons in a group. Traditional organizational structures, such as the department or the autonomous student teaching program, may not be very appropriate to fully individualized learning.

Program Alternative Three. A third alternative is to manage student instruction by organizing students and faculty into teams. Actual teaching and learning in the team approach may take place individually or in a group setting as seems necessary and desirable to the team members. In a large program, for example, a team may consist of 100 students (Juniors and Seniors), 10 staff members (full and part-time), and 2 teachers in the public schools. The professional staff form the governance group of the team, planning and preparing its program.

Within the team, students can work through the series of modules as a group, retaining the same instructional team as they progress. Thus, each instructional team is responsible for the entire professional education of one group of students, or for a specific section of that education. This arrangement creates a kind of school within a school.

Teams can modify learning experiences to meet the needs of the student group and with the concurrence of the cooperating schools. Professional team members can hold seminars on a regular basis with smaller groups of students to discuss problems and concerns. It is possible, of course, that not all students in the group will achieve at the same rate. Some students will need "recycling" (i.e., repeating learning experiences until they achieve mastery of the competencies) and some will need to switch to other groups.

Differentiated Responsibilities of Staff

It is expected that the professional staff of the PBTE program will have in common an enthusiasm for the potential of the approach, although they may have a wide variety of scholarly backgrounds and interests. Other members of the staff who are not concerned with PBTE or who are actively opposed to its concepts can continue serving in the more traditional functions of the institution or agency, such as presenting graduate lectures, directing theses, conducting research, or supervising classroom teachers.

Though most professionals in the PBTE program will be designated as "resource persons," they will not necessarily all have the same duties, nor will all have the same kinds of credentials. There are many functions to be served in PBTE, and the personnel to fulfill the functions can be selected on the bases of the needs of the students, personal expertise and professional background, individual interests, and teaching style.

Occupational specialties of faculty need not conflict with the differentiation of staff roles. Teacher educators with specialized occupational training can participate in a variety of responsibilities and need not be limited to working with students in their own occupational area. For example, a resource person with a home economics specialty might well be able to assist students of all subject areas to develop competence in working with slower and more capable school pupils.

Among the differentiated staffing functions of PBTE personnel are the following:

- Critiquing students' simulated performance. This function can be divided among several resource persons, using each for critiquing the teacher behaviors in which he or she has particular interest, skill, or expertise.

- Assisting students with cognitive knowledge aspects of module competencies. This includes discussing the readings, assisting with student planning, and evaluating student understanding.

- Organizing, planning, and supervising student field experiences. This calls for detailed planning and efficient management of a complex situation. Resource persons who are also school administrators or supervisors might be effective in this position.

- Planning students' programs. While all resource persons probably will be involved in planning and counseling with students to some extent, some who are especially capable of understanding student needs or who are trained in guidance and counseling may specialize in this role.

- Producing and evaluating program materials. PBTE programs will benefit from the services of curriculum developers who can enrich and personalize modular materials, create situation-specific materials, and review program competencies. Program developers will also need to evaluate the effectiveness of materials and assess the program's long-term results.

- Coordinating the program. The vocational department chairperson may be the one to coordinate the PBTE program, or a special individual may be named to this position. In either case, it is likely that the program will require much more thorough-going and detailed coordination than does the typical vocational teacher education program. Especially as the plan gets underway, there will be agreements to be worked out, staff assignments to be made, schedules to be designed, and procedures to be inaugurated that will require the best efforts of the coordinator. It would be helpful if he or she is also skilled in human relations, because stresses may well develop among the staff as new roles are acquired, and as problems arise. It should be quite obvious that the PBTE program coordinator must be thoroughly grounded in the principles and practices of PBTE, and must be enthusiastic about its potential.

Resource Person/Student Relationships

In a fully-functioning PBTE program, the relationship between the manager of learning (the resource person) and the student tends to be closer and more crucial than it is in traditional group-based instruction. This one-to-one relationship in the learning situation disarms the contention of its critics that PBTE is basically dehumanizing and mechanistic. Indeed, if it were not for this strong characteristic of PBTE, it would lose much of its real vitality.

A detailed description of the way in which resource persons and students work together toward achieving the goal of student teaching competence is found in the Resource Person Guide to Performance-Based Teacher Education. Program directors and administrators can encourage and strengthen this valuable relationship by working in the following directions:

- Provide the teacher education faculty with the necessary time to devote to working with students as individuals. Teaching loads and student/teacher ratios need to be adjusted to allow individualized teaching and learning to take place. The number and type of other professional duties of the faculty need to be kept under control. Experience indicates that unless faculty loads are reduced from what is generally assigned for traditional group and lecture courses, time for individual instruction will not be available, and the PBTE program will suffer.

- Provide PBTE resource persons with physical facilities that indeed facilitate communication and cooperation. Offices should be close to the center of student activity, facilitate communication, and be suitable for individual and small-group work.

- Provide resource persons with assistance in the form of clerical personnel to maintain schedules, relay communications, and assume routine duties.

- Provide resource persons with the needed orientation and training to become functionally effective in this unique and generally unfamiliar role. Such training ma, initially be undertaken with the assistance of outside consultants, and then become an ongoing function of the institution itself.

- Provide knowledgeable and perceptive supervision of the work of resource persons. This needs to be done to ensure the maintenance of good relationships and effective instructional procedures even after the initial enthusiasm and excitement of implementing a new program have lost their keenness.

Organizing Group Activities

There are points in the PBTE program when group work is both an efficient and educationally desirable way of transmitting information and developing favorable student attitudes. Such group work is often possible within the structure of modularized instruction, and may also be used in addition to the activities within the module program. Competencies may be taught by special resource persons and subject matter experts using approaches especially appropriate to the student group. Additional professional experiences may also be designed as enrichment opportunities or to relate learning activities to current interests and specific local situations.

Some occasions on which special group activities may be effective follow:

- A guest expert is available and students can benefit from participating in activities involving that expert (e.g., hearing a lecture, viewing a demonstration, participating in a discussion).

- A group of students express a need for discussion with resource persons or others on a topic of direct professional interest to them.

- A student demonstration or presentation is so effective it is worth sharing with a large number of peers. This has great possibilities for benefiting both the student and the peer group.

- A resource person concludes that students would benefit by a group discussion or presentation on a topic that affects them closely.

- Several inservice teachers who are working on modules individually feel the need to get together to share experiences, discuss mutual concerns, or critique each other's work.

Either students or staff may initiate this type of group activity and together they may decide on the specific leadership and information needed. Such activities are usually voluntary and should grow out of felt needs, rather than being required experiences constructed by authorities. These activities are as valuable and legitimate in performance-based education as in any other program.

Whether the educational events are necessary learning activities for achieving competencies or enrichment activities, they can be planned through the resource center. An event should be scheduled at a time when it is likely to be of most value to students in the program...when they have reached that point in their module series to be able to benefit from being exposed to the subject. The mechanics of organizing the event may be as simple as posting a notice in the resource center and perhaps asking interested students to sign up to attend.

There are some special problems in arranging group activities for inservice teachers because of their geographic separation and possibly conflicting work schedules. If at all possible, it is very helpful to arrange for two teachers in the same school to be working on the same module. They will thus be in a favorable position to assist and encourage each other and critique each other's efforts. Teachers in isolated areas may be brought together occasionally at a regional center (perhaps on a school planning day) for much the same purposes, with a resource person available to work with them.

Maintaining Student Progress

The tasks of maintaining the progress of students throughout the educational program and working to provide motivation for students have long been difficult ones for teacher educators, whatever the program or approach. The problem is perhaps more pronounced in performance-based education because the student is given a much greater responsibility for his or her own learning. The built-in constraints and motivating effects of formal course structure, final examinations, grade-point averages, and class competition are usually missing. This experience in self-direction and self-discipline is, however, valuable preparation for the professional life of the teacher.

In the early stages of the PBTE program, students may need a great deal of guidance, encouragement, and perhaps some form of external motivation. Most will have had no experience with such a

learning situation and some will not know how to handle it. As they learn how to cope with freedom and responsibility, PBTE students are able to determine many of their own needs, make educational decisions, and work within a plan.

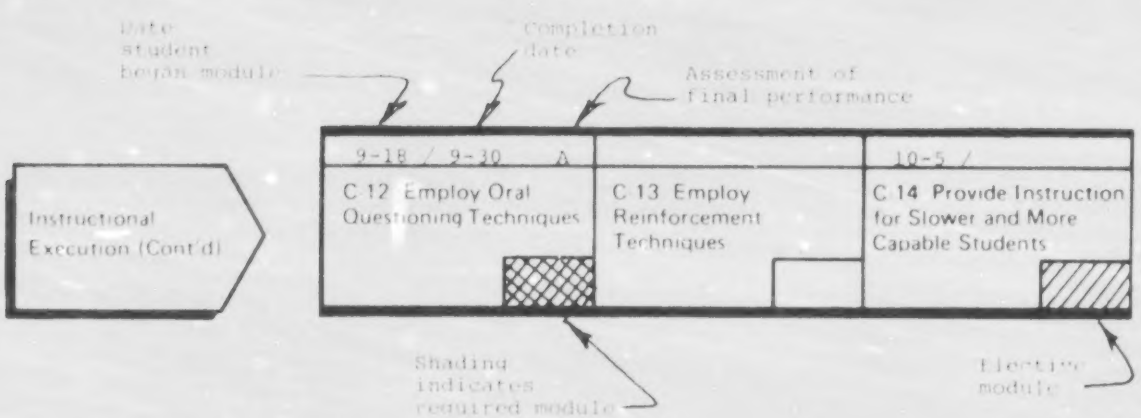
There are some procedures and devices that can be used to assist students in planning their work and maintaining consistent progress toward their goals.

- Retain the traditional course structure with its time base, final grades, and credit hours. This will make student progress in the program rather self-evident, but it may result in the loss of a number of positive factors of PBTE. Individualization and personalization will undoubtedly be diminished.

- Provide a formal review of the student's progress toward program completion at regularly scheduled intervals. The student and resource person (or program director) can confer, with a summary report of the conference being placed in the student's file.

- Use a student progress chart showing the competencies achieved by each student enrolled in the program. This presentation of accomplishment can be publicly displayed in the resource center so that any student can readily check his or her rate of progress. A sample chart is shown in the Resource Person Guide.

- Use the "Vocational Teacher Competency Profile" (see example) with the student as a program-planning and progress-monitoring instrument. The profile provides a complete graphic presentation of The Center's PBTE modules and can be marked to show the individual student's total planned program. A similar profile could be developed for any modularized training program. The institution's required modules and the student's elective modules can be differentiated by highlighting them with distinctive shadings or colors. The small boxes provided may be used for recording the dates when a student begins and completes the module, the student's initial and final competency rating, etc. An example of a section of the profile appears below.


Date student began module
Completion date
Assessment of final performance
9-18 / 9-30 A
10-5 /
Instructional Execution (Cont'd)
C 12 Employ Oral Questioning Techniques
C 13 Employ Reinforcement Techniques
C 14 Provide Instruction for Slower and More Capable Students
Shading indicates required module
Elective module

- The indicated program and the completion dates of each element help to present a clear picture of how efficiently the student is working to reach the goals of professional preparation. The profile may also be used to identify areas of difficulty which the student, with the aid of the resource person, needs to overcome.

The Center's PBTE modules require that the final experience take place in an actual school situation. The educational philosophy on which this is based is that only by observing the teacher perform, under realistic conditions and interact with actual students can an accurate assessment of the teacher's proficiency be made. Organizing the PBTE program to provide these actual school situations when they are needed is a major responsibility of the program director and the resource person. There are a number of possible arrangements by which school situations can be provided. Each institution will need to work out specific details to suit its educational setting. Several possible alternatives are presented in the following section.

- The student teaching period is a time when many of the competencies can be assessed. For a number of modules, the student can complete all learning experiences up to the final one during on-campus courses and delay the final assessment until some point in student teaching. Assessment can be done by a university-based resource person or by a cooperating teacher who has been trained as a resource person.

- Internship or inservice teaching are natural settings for completing the students' final assessment. Inservice teachers may use their own classes for this purpose, or they may borrow the classes of their colleagues for particular performances if that proves more convenient. It has been found that colleagues can function well as resource persons in this situation if they have received appropriate training.

- Preservice teachers may be assessed on some of the modules' competencies during early clinical experiences. Some institutions have been successful in organizing programs in which students get out into the schools very early in their training, and these situations may be very suitable for completing some of the basic or less complex competencies. In this case the assessment will probably need to be done by university resource personnel.

- Prospective teachers who are working as teacher's aides may complete the final experience in their work setting. Because of their change in role from aide to instructor, it may be wise to arrange to demonstrate competence with borrowed class groups for some modules.

- Inservice or preservice teachers may be able to use a wide variety of groups for purposes of demonstrating competence. Adult education classes, community groups, youth groups,

private or parochial school classes, special-interest or recreational groups, may all be used for presenting lessons or other teacher performances. The teachers themselves may make suggestions as to how they can be evaluated. The program coordinator must make sure that the situation is an educationally sound one and that arrangements are made for proper assessment procedures to take place.

It is important that program directors and resource persons work out agreements in advance with the institutions and agencies where final assessment is to take place. Casual arrangements often result in undesirable conditions, lack of the necessary facilities, and the ultimate disenchantment of all concerned. Also to be avoided is the overuse of any one school situation. School teachers and administrators may come to resent the time and effort that is being demanded of them in providing for the teaching performances, and may close the door to cooperation entirely.

The ultimate responsibility for success in a fully functioning performance-based program lies with the student. As the foregoing suggests, there is, however, much that the program administrator and the resource person can do to train students to work in the PBTE setting, to provide motivation, and to counsel with them about their progress.

LEARNING FACILITIES FOR PBTE

The Need

The physical facilities required for successful implementation of performance-based teacher education (PBTE) are in many ways quite different from those needed in traditional teacher education programs. These differences stem from the fact that PBTE is largely individualized, emphasizes student performance, utilizes instructional media extensively, and is based on a one-to-one relationship between resource person and student. The characteristics of PBTE, therefore, result in the need for suitable facilities for independent study, with perhaps less need for classrooms designed for large-group instruction. There must be space for the use of a wide variety of instructional media, and the necessary equipment must be available when required. Offices for resource persons should be in close proximity to study and performance areas and should be easily accessible to students. Administrative and program management facilities should be integral with, and adjacent to, the other facilities to make it convenient to schedule activities and maintain the records of student achievement.

The Problem

The facilities for student and faculty study, simulated performance, student production of projects, and counseling should be centralized, if possible. While decentralized facilities can certainly be made to work, and while many newly installed programs may need to make-do with whatever is available, such scattered facilities are not really desirable for a PBTE program. Decentralization creates a great many management difficulties, contributes to the inefficient use of personnel, and tends to lower the learning effectiveness of the program. Administrators of ongoing programs report that many of the problems of implementing PBTE are directly related to inadequate or decentralized facilities.

Some of the facility requirements of a PBTE program are familiar, but are of a different magnitude of importance than in traditional programs. For example, the use of instructional media is hardly new, but in PBTE it is not simply an interesting and helpful luxury but an integral component of an individualized performance-based program. Videotape recordings, for example, are frequently utilized both for instruction and student assessment. Program management in PBTE is not just a matter of making long-term policy decisions or keeping semester grades, but is directly concerned with scheduling instructional events on a daily basis, maintaining communication between students and resource person, providing resources when they are needed, and maintaining daily records of student achievement of the competencies.

The Resource Center

A unique facility for PBTE is the resource center, a centralized learning unit that combines many attributes of the library, media area, classroom, workshop, seminar room, counseling center, and administrative office. This facility is also sometimes called the "learning center" or "module laboratory." A resource center, properly planned and managed, contributes greatly to program success and quickly becomes the hub of operations around which the total system revolves. Activities that can conveniently take place in a resource center include:

- dissemination of instructional modules
- student independent study
- scheduling of learning activities
- storage and dissemination of instructional media
- student assessment

Either as a part of the resource center itself, or in a closely related facility, other activities of the PBTE program can be provided for, including:

- videotaping student performance
- viewing tapes and using a variety of other media
- holding student and faculty seminar sessions
- holding student/resource person conferences
- exhibiting student-produced projects and displays
- keeping records of student achievement

Each teacher education institution or agency may wish to develop its own set of objectives for its resource center. The objectives will grow out of student needs and characteristics, program demands, and institutional resources. Such a set of objectives might appear as follows:

The resource center will:

1. be a place where learners may work on module learning experiences.
2. disseminate to students instructional resources for the modules, including books, other reading materials, filmstrips, videotapes, and other materials.

3. provide students with assistance in attaining module objectives.

4. serve as a place for conducting assessment of teaching competencies.

5. serve as a communication center for learners, technical staff, and resource persons.

Colleges implementing individualized programs often find that their present physical facilities are quite inappropriate for such diverse activities and innovative programs. Ideally, a resource center should be specifically planned to meet the needs of the program. Experience has shown that it is highly desirable to have the resource center as a unified facility in a centralized location. Instruction for performance-based education requires a flexibility in the use of facilities and resources that may not be possible when the resource center is organized as a part of a college or school library.

The following eight components make up the complete PBTE resource center. The arrangement, organization, relative size, and overall design of the components may vary widely with the program, but all the components need to be considered in planning for the resource center.

- Instructional Materials Repository. This provides for the storage and dissemination of instructional modules and other learning materials. Included in this latter category may be a wide variety of books, pamphlets, selected readings, videotapes, audiotapes, filmstrips, slide/tapes, films, and their associated hardware.

- Individual Study Carrels. Because the modules require a considerable amount of independent study, carrels, in a quantity proportionate to the number of students, should be available. Though it depends to some extent on the other study facilities available, as a rough approximation, the number of carrels should be equal to 25 percent of the number of students in the program.

- Work Tables. Tables are needed for a variety of purposes related to student learning experiences. These include instructional materials' production, project work, and construction of displays.

- Videotaping Studio. Videotaping is of great importance in recording and evaluating many of the teacher competencies in the PBTE program. The studio should provide the basic facilities of a small classroom (e.g., chalkboard, projection screen, teacher's desk, chairs for a small group of students), as well as space for the necessary videotaping equipment itself. Large programs will need more than one studio.

- Videotape Playback and Media Viewing Room. This is used to view prepared videotapes and/or to critique students' taped performances. The latter function requires reasonable privacy for students and resource persons as they work together. The same area can be used for student viewing of slide/tape presentations and other media.

- Seminar Rooms. Flexible, multi-purpose rooms are needed for small-group discussion, student practice of performances, and evaluation sessions.

- Area for Student Records. It is essential that records of student progress through the selected competencies be convenient and accessible. This facility can be used to check student programs, and some sections of the records should be available for the use of the student. The records may take the form of file folders, computer printouts, file cards, or wall charts, among others.

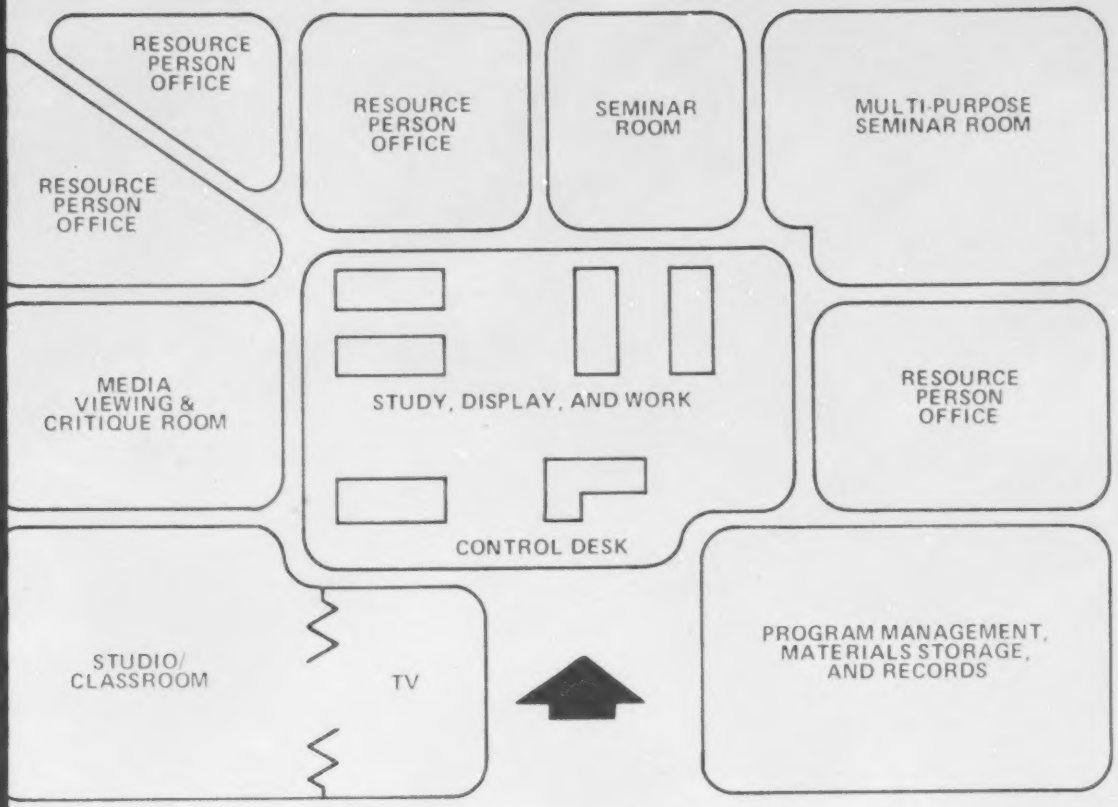
- Resource Person's Office. The resource person needs to be readily available to aid students in the pursuit of learning. The resource person will be involved in consultation, counseling, planning, problem-solving, and critiquing of students' work. In addition, the resource person will need facilities for functioning in the role of program developer and materials' producer. All of these activities suggest that the resource person's office should be close to the hub of student learning activities.

Alternatives

It should be emphasized that no teacher education institution should put aside PBTE solely because it does not have an optimal facility that can be used as a resource center. Probably most teacher education programs embarking on PBTE will not be able to construct or organize entirely new resource centers in time to be available when the school year commences. Many programs would not wish to do so if they could, preferring to develop the resource center incrementally as the program develops. As experience is gained, and as the transition is made from a traditional to PBTE program, a clearer idea of the needs of a resource center will emerge, and suitable plans can be drawn up.

As the PBTE program begins, the resource center may have to be a part of the existing education curriculum library or the curriculum laboratory in the college of education. The school system using PBTE modules for inservice education may use the professional library at the school for this same purpose.

The PBTE resource center may be set up within the main library of the institution. If this pattern is used, it may be necessary to house the videotaping and viewing activities in a separate facility. If at all possible, office and seminar space



SCHEMATIC DIAGRAM OF COMPLETE RESOURCE CENTER

should, however, be located in the library center along with the materials' storage and study areas. Obviously, using the main library creates problems for communications, scheduling of events, and accessibility. Good planning may be able to minimize these difficulties.

A series of small standard classrooms that are grouped together can be utilized as seminar rooms, multi-purpose workrooms, and performance practice rooms. Furnishing these rooms with suitable conference tables, work tables, and comfortable chairs will help make them function satisfactorily.

It is even possible to use a large lecture hall with a level floor to serve several of the functions of a resource center. Movable walls or temporary screens can divide the space for independent study and seminar activities. Such a facility is certainly not the best, but may serve temporarily until a well-planned resource center is constructed. One section of a vocational classroom or laboratory can also be organized to serve as a resource center. If all else fails, student study tables can be set up in department office areas, videotaping can be done in a small classroom, and modules can be stored in available file cabinets or in a well-organized storage closet. Teachers and teacher educators are a resourceful breed, used to making-do with what they have, and not always familiar with luxury accommodations.

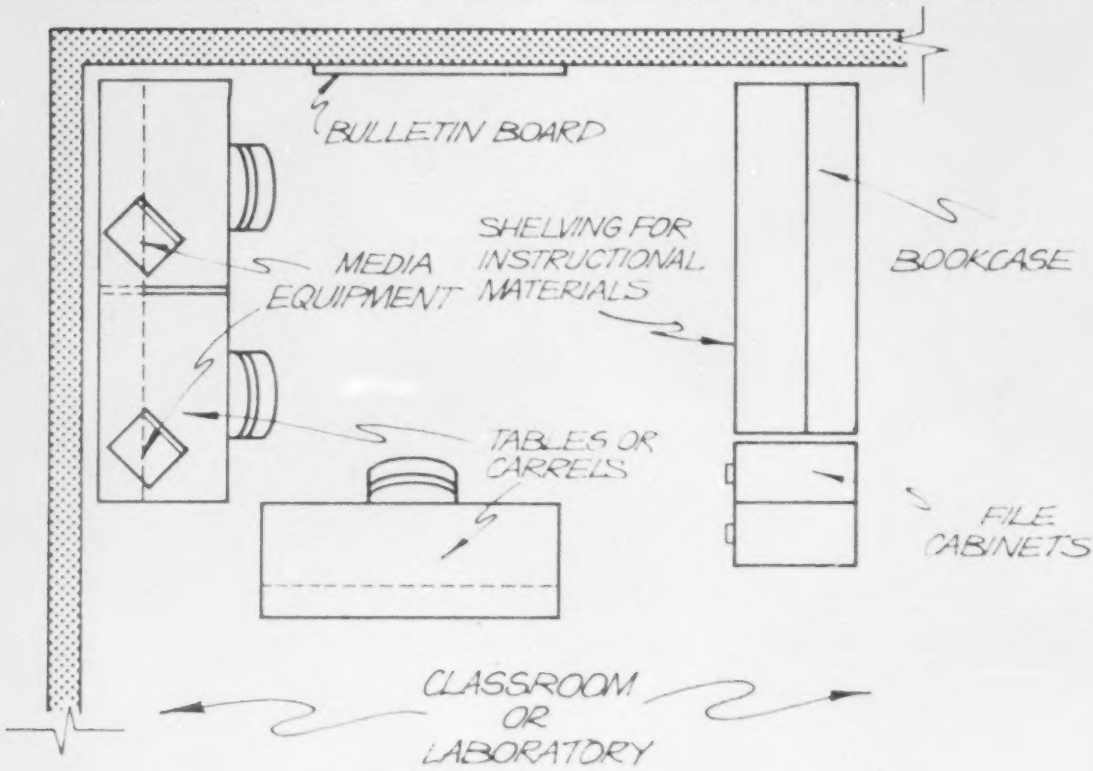
Providing instructional resources for inservice teachers in outlying off-campus areas creates some special problems for PBTE program implementers. There are few recommendations for these situations that are generalizable, so each institution will need to work out its own solutions. It is sometimes possible to set up regional resource centers in schools, while sometimes individual resource persons need to take personal responsibility for getting materials to teachers when they require it. The problems involved may require some careful planning, but experience with PBTE programs indicates they are certainly not insuperable.

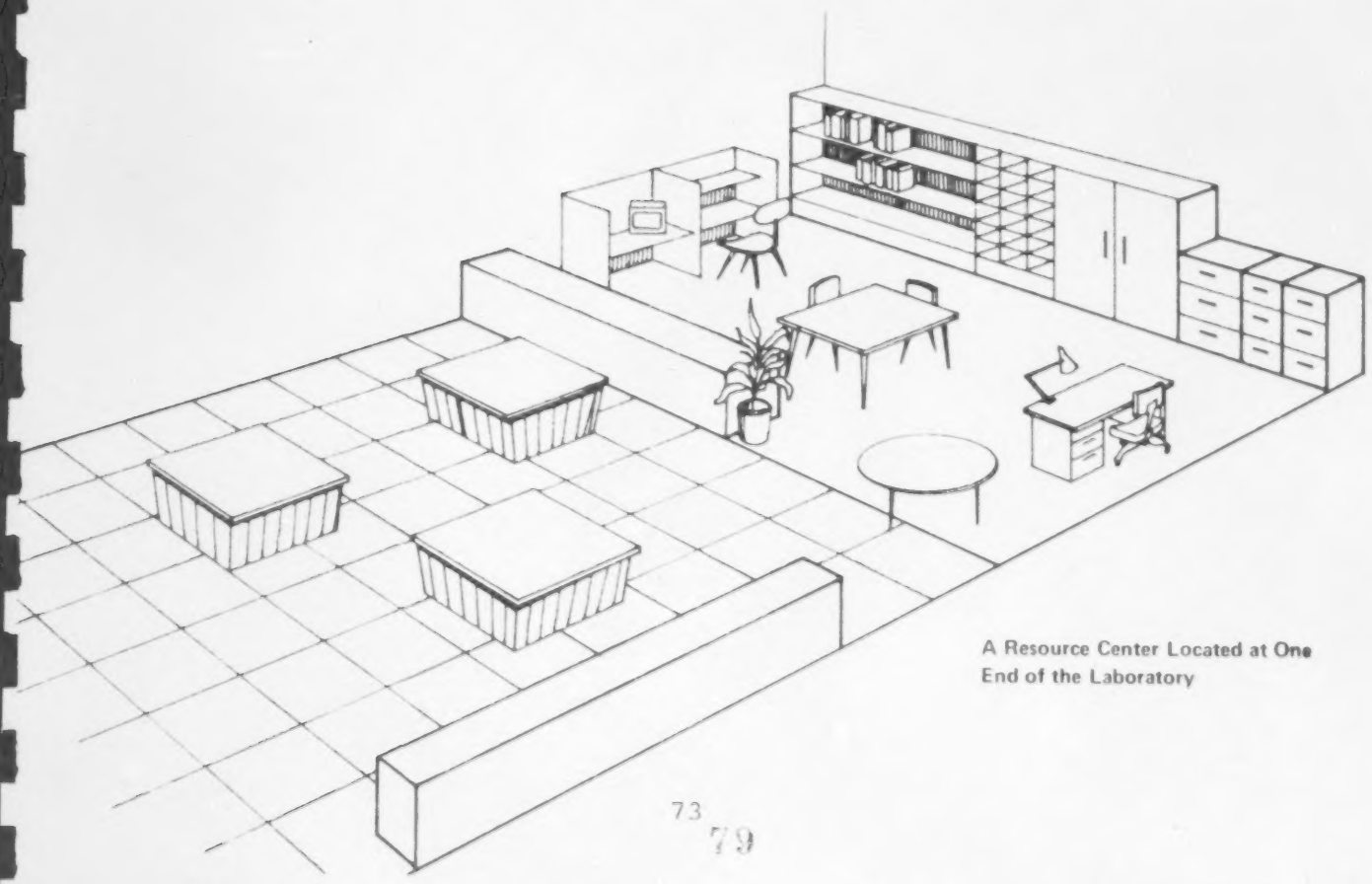
Equipment

The specific items of equipment needed in the resource center vary with the PBTE program as it is conceptualized and constructed for the particular instituion. The selected competencies and the modules to which they are related require learning experiences that involve the use of specified equipment. The necessary equipment can, therefore, be derived from an examination of the resource list for the selected modules. In the case of The Center's PBTE modules, a "Module Resources List" (see Appendix of the Resource Person Guide) itemizes all the materials required by students for the successful completion of each module.

The amount of each type of equipment required will be determined by several factors. They include (1) the numbers of students in the PBTE program, (2) their scheduled use (including

RESOURCE CENTER WITHIN A VOCATIONAL EDUCATION CLASSROOM OR LABORATORY





A Resource Center Located at One End of the Laboratory

estimate of peak usage), and (3) the possible use of the resources of other departments or agencies. An inservice professional development program, for example, might have access to videotape recorders in school centers, rather than having to acquire equipment itself.

While each program will probably select a unique combination of equipment for its own use, in general the following types of equipment will be required to equip a fully-functioning resource center:

- Videotape camera, recorder, and playback equipment
- Audiotape recorder
- Film-loop projector (8 mm)
- Slide/tape projector
- Overhead projector
- Duplicating machines (e.g., Xerox, Ditto, Mimeograph, Thermofax)
- Book shelving
- File cabinet(s)
- Tape storage cabinet(s)
- Accessories for above equipment
- Individual study carrels
- Work tables

Reference Materials

Experience with the development of PBTE modules has shown that students appreciate a systematic presentation of material within the module itself, rather than having to rely on resources that may be housed in a number of locations on the campus, or that may not be available to them at all. The Center's PBTE modules are largely self-contained, and with few exceptions the outside readings are optional or alternative learning activities which not every student will choose to take. The instructional resources usually take the form of selected sections of books, booklets, pamphlets, and documents.

In addition to the general readings, students completing the modules will benefit greatly by having access to reference materials which are more directly concerned with, and applicable to, their occupational service areas. Resource persons with certain

occupational backgrounds can suggest books and other printed materials for the resource center that are especially valuable in their specialty. Examples of these materials are books that treat the subject matter contained in the modules from an occupational viewpoint, school texts for use in lesson planning, manuals for technical information reference, and catalogs of supplies and equipment used in the occupation.

The Center's PBTE modules also incorporate some use of prepared videotapes, slide/tape presentations, and audiotapes. As integral parts of the modules' learning activities, they will need to be easily accessible to students, and appropriate playback equipment must be available within the resource center.

The required, optional, and specialized resources should be permanently housed in the resource center, readily available to individual students as they pursue independent study of the modules. Typically, a student working on a particular module will reach a point in the learning experience where a specific resource is needed, will use that resource for a relatively short period of time, and having finished with it, will move on to the next activity. Thus, the use of any one resource will be intensive and short. For user efficiency, the resource should be nearby at the point of need.

If the institution has a large number of commuting students whose possible use of the resource center is restricted, or if the program is designed for inservice teachers, duplicate copies of the most popular resources may be provided for circulation. The institution's main collection of books, periodicals, and nonprint materials (e.g., microfiche) is not directly integrated into the PBTE program. Therefore, it can remain housed where it is available to the general student body, either in the main library, education library, or professional library.

Studio and Classroom

The videotaping studio/classroom is a vital element in the performance-based program. Videotapes are often made of micro-teaching sessions during which the student practices the subject competency, critiques his or her own performance, and finally demonstrates competence to the resource person. Peers involved in the micro-teaching sessions benefit from being a part of the event and being able to critique the performance of others. The studio may also be valuable to resource persons as they prepare videotapes for enriching instruction and serving as models of accepted teacher behavior.

The PBTE program administrator should anticipate extensive use of the studio/classroom as the program develops. Most institutions will find that one studio will be sufficient for inaugurating PBTE, but those with large enrollments should plan for future multiple facilities.

The studio/classroom, especially designed and constructed for use in a PBTE program, will have the following general features:

- It will be the size of a small standard classroom, without outside windows, but generously and evenly illuminated.
- There may be a one-way observation window.
- It will be acoustically treated for good sound recording and to prevent interference by outside activities.
- It will be located adjacent to, or integral with, the resource center, but will be secure from observation or disturbance by casual passers-by.
- It will be provided with the usual accouterments of the classroom, including teacher's desk, chairs, table, chalkboard, projection screen, display board, and chairs for a small group of students.
- It will be equipped with videotape recorder and camera, audiotape recorder, lighting equipment, and necessary accessories, with storage space provided for these items.
- Adjacent to the studio/classroom will be a small waiting area for students preparing to perform, and a viewing and critiquing area where the tapes can be replayed.
- Alternatives: A suitable, existing classroom can be designated as the videotape studio and may be used exclusively for this purpose. It should be selected from those available to include as many features of the purpose-built studio as possible. Minor modifications, such as adding window blinds, acoustical curtains, or storage cabinets may enhance the room's effectiveness substantially. A classroom, regularly used by classes for part of the day, can serve as the videotaping studio at other times. In this case, the videotaping equipment will need to be made completely portable and stored in another room when it is not actually in use, or secure storage space will have to be built into the classroom itself. The obvious disadvantages of such a setup can be minimized by close scheduling of the room's use and by the mutual cooperation of the users.

Management of the Resource Center

Because of the wide range of student and resource person activities that take place in the resource center, good management procedures are required to keep it functioning efficiently. There are books and pamphlets to check out, prepared audio and videotapes to control, taping sessions and group discussions to schedule, equipment to maintain, and modules to disseminate. In

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particular, the scheduling of learning activities in the various stations of the resource center can, if not well organized, lead to chaotic and frustrating conditions for all concerned.

A resourceful resource center manager will develop procedures to keep the work running smoothly and to assist students and faculty in their tasks. Among the management devices that have been found helpful in PBTE programs are:

- A schedule chart for the studio/classroom showing available hours. Students and/or resource persons can sign up on the chart for their taping sessions.
- A weekly "learning events calendar" showing a schedule of related campus and off-campus activities such as discussion group sessions, seminars, lectures, interviews, etc.
- Bulletin board for official notices where students can sign up for peer groups, transportation to field sites, and the like.
- Pigeon-hole boxes for students and resource persons to aid intercommunications. This has been found very helpful in arranging practice sessions, making appointments for conferences, and other communications that are so much a part of the active PBTE program.

The resource center in a PBTE program must be available for student use when the students need it. Resource materials must be at hand, and resource persons must be scheduled at the center so that professional assistance and advice is available freely on a one-to-one basis. This means that the center should be open for use all during the day. Where there are commuting students and/or inservice teachers in the program, evening hours are probably necessary also.

Space Needs

The space requirements for the PBTE program can be inferred from the preceding section on the resource center. The amount of space will, of course, be greatly affected by the enrollment in the program, but the type of space required will be just about the same for all programs. The space required for a PBTE program is quite different in many ways from the space needs of a traditional teacher education program. The traditional formal classroom, the large lecture hall, and the isolated faculty study are not very desirable for PBTE.

Resource persons in the PBTE program will require some form of office space in or near the center of student activity. The office should be accessible, and spacious enough for conferences and work sessions with individual students or small groups of students. Some type of work table or small conference table

would be of great help. The resource person will, of course, use the office not only for student consultations, but also for professional study and for the preparation of PBTE materials.

Seminar rooms are used in the PBTE program for such things as group study of modules, group discussion sessions, and teacher practice. Some PBTE programs form teams of students under the leadership of a resource person, and these teams meet weekly to discuss the modules, air their problems, and help each other find solutions. Some form of seminar room with a conference table and/or comfortable seating is very desirable for this group work. The room can serve as the "home base" for the group, and would be the place to post the group's progress chart or display student work. Ordinary classrooms, located near the resource center, can serve as seminar rooms if they are arranged informally.

Some of The Center's modules ask students to design and construct displays, exhibits, and projects. An open area in or near the resource center will enhance the effectiveness of these learning activities. The open area should be located where the student body can see, critique, and enjoy the results of their fellow students' efforts. The open area should be comfortable and attractive in appearance and well lighted. An entrance hall, foyer, spacious hallway, or lounge area could be set aside for these display activities. It would be extremely helpful if a simple workshop facility for project construction were provided. An ordinary classroom, stripped of its chairs and furnished with work tables or benches, would be adequate. Alternatively, arrangements could be made to have PBTE students use an existing industrial arts or vocational education shop for constructing projects.

Distribution of Instructional Materials

Most problems involving the storage and distribution of PBTE instructional materials are common to instructional materials in general. Significant exceptions to this are the individualized modules themselves. An institution may use from 20 to 100 different titles, each with scores of copies. Stocks of the modules will need to be acquired through some source and the copies made available to students under some systematic procedure.

If the institution is to furnish students with the modules without charge, it may be possible to make the module files freely available to the students. They could thus find the title they need when they are ready to work on it. More likely, one copy of each module on the student's program profile would be checked out to the student by the resource center staff. Commonly, colleges and universities handle the sale of modules to students just as they would textbooks or any other instructional materials. The university bookstore places orders directly with the publishers, the quantity being based on faculty estimates of need. If The Center's modules are to be used, it would be wise for the bookstore to stock at least a small quantity of each one

of the 100 titles with, of course, much larger quantities of titles that will actually be assigned. Experience has shown that students want reference copies of the modules, not only for immediate use but as additions to their professional libraries. Bookstores are quite familiar with material of this type and should have no difficulty handling it. It would be very wise for vocational education departments to avoid getting into the business of selling modules.

Module storage and filing for staff use probably is most easily accomplished by using letter-size filing cabinets. A simple scheme of filing by module category and number works well. A card catalog or index can make it easy to locate any module by title, competency, or objectives.

Storage of other learning resources can be readily handled by employing accepted organizational practices. The learning resources for each module may be separated by type, and stored on standard shelves or in cabinets. Thus, resource books would be shelved together, pamphlets would be filed, videotapes stored on racks or in boxes, slides kept in cabinets, and so on.

Another plan that has proven feasible is to place all the resources for a particular module in one package, to be checked out to a student when he or she is working on that module. Such a "resource box" makes it convenient to find the material, but it does mean that probably only one student can use the resources for that module at any one time.

General resource books, reference works, school texts, and occupationally specialized books can be cataloged and shelved in the usual way. It would be wise to use the same cataloging system as the main library (whether Dewey Decimal or Library of Congress) rather than attempt to develop a home-grown variety. Students will be less confused and the resource center will be able to use the services of the main library in acquiring and cataloging the materials for your program.

Staffing

Staffing for PBTE learning facilities will, of course, vary with the size of the program, but it is likely that a minimum of one additional staff member will be required. The manager of the resource center may be able to take care of most of the daily routines of the program, with some extra help provided to keep the facilities operating in the evenings or weekends. This position does not require the training of a media specialist or professional librarian, though some experience in both of those fields would be helpful. Student assistants may work out well.

Routine scheduling, record keeping, and housekeeping can be done by a clerical worker. The recording of videotapes can be the responsibility of a separate technician, or, in small programs, can be handled by a student with special interest and some

training in this area. High-level technical and creative skills are not required, but dependability and punctuality are highly desirable qualities in a videotape operator.

The program administrator should not overlook the possibility of holding down operating costs by using part-time student help. Students may be available from a work-study program, for example, at little cost to the PBTE program. In any case, the staff of the PBTE learning facility should be directly responsible to a designated senior staff member, faculty member, or the program director.

SCHOOL, UNIVERSITY, AND EDUCATION AGENCY COORDINATION

The Need

In a field-centered, individualized, and modularized performance-based teacher education program, schools, universities, and educational agencies have a unique opportunity to engage in a cooperative effort for the improvement of the preparation of teachers. In contrast to traditional campus-based teacher education programs in which the university controls the program and uses the school as a setting for student teaching, in PBTE programs, schools and universities are integral parts of the same functioning operation.

There is need, therefore, to coordinate the effort closely. The schools in which field experiences are to take place should be selected by the use of criteria designed to identify locations that assure a good teacher education environment. Skilled teaching practitioners need to be selected and trained to function as field resource persons. School administrators, program supervisors, and professional development personnel need to work together with university teacher educators as program advisors, coordinators, and resource persons. The local and state education agencies need to give their approval and positive support to the PBTE program in a variety of tangible and intangible ways.

The university, schools, and education agencies should align their educational goals, philosophy, and methodology to the extent that the implementation of the PBTE program is assured. The preservice and inservice teacher trainee needs to work in an environment of support and harmony, one conducive to professional growth.

The Problem

The school and the school system working within the PBTE program design have a demanding role and a dual responsibility. Their primary responsibility is to the local community and for the education of school pupils and adult students. An added responsibility is to work to prepare effective teachers, utilizing school personnel, school facilities, and students for this purpose. Involvement in a PBTE program demands a level of professional commitment to teacher preparation hitherto not usually asked of school personnel.

The dual responsibilities can be a positive factor for education, often augmenting and strengthening each other for the betterment of both pupils and teachers. It is, however, only realistic to acknowledge that the two responsibilities may occasionally be in direct conflict, and hard decisions may have to be made as to which need is preeminent.

The university teacher education program must gradually assume two responsibilities, also. The primary, and quite

apparent, responsibility is that of aiding school personnel in upgrading their professional expertise and, through this, improving school instruction. This may be done in conjunction with the training of PBTE resource persons, or as a separate and distinct educational endeavor. The university may find it difficult to accept the fact that a field-centered teacher education program tends to require that it relinquish some of its traditional and cherished autonomy, and share its responsibilities with the public schools.

Selection of Cooperating Schools and Teachers

Selecting and gaining the cooperation of schools as units of a PBTE program should be done with the greatest care and most thoughtful analysis possible. A limited PBTE program located in a smaller community may, of course, need to work with the personnel and schools that are available. It is not unknown for traditional programs to place a student teacher in a school to help solve a manpower shortage or to shore up a weak teacher by providing extra help. The nature of PBTE makes such a practice an invitation to educational disaster.

The PBTE program director can cooperate with local school agency administrators to identify field sites by using a prepared set of criteria. Institutions and agencies can work together to develop criteria that are appropriate to the local situation; some suggested items are given in the section that follows:

- The implications (both positive and negative) of being involved in the PBTE effort are understood and accepted by the school's chief administrative officer.
- The school administrator has made a definite commitment to the PBTE program and has made known this decision to those of the school staff who may be involved.
- A plan to appropriately reward personnel working in the program has been made.
- The school faculty has been given basic orientation to the principles and practices of PBTE.
- School consultants and support staff are committed to cooperating with the PBTE program and have appropriate credentials for the task.
- A specific implementation schedule has been outlined and accepted by school administrative personnel.
- The subject-area programs are strong ones in terms of curriculum and facilities.
- The subject-area teachers are well prepared, and accepted models of excellence.

- There are facilities available (e.g., office space and videotape equipment) for the use of the field resource person(s).

- The local education agency has given permission for the use of classrooms, teachers, and students for PBTE purposes.

- A commitment has been made not to use teacher trainees as substitutes, teacher aides, or the like.

- The school has potential as a dissemination center for PBTE.

The logistics of providing field resource persons to work in diverse school settings suggests the use of fewer school sites and increasing the number of trainees at each school. The idea of the "Portal School" should be examined as a possible response to this problem. Preservice teachers can enter these designated portal schools, complete their final learning experiences and take positions in the school as beginning teachers or interns. Inservice teachers can enter the profession through the portal school and complete their PBTE training while gaining initial experience in a supportive and supervised setting.

There are a number of considerations that should be kept in mind in dealing with the portal school concept or planning a field site for a large number of trainees.

- Public school teachers in the school may need to be retrained to ensure their competence in the essential areas of the PBTE program.

- It may be possible to arrange for the field site to be completely staffed with skilled practitioners recruited from the total school system.

- The staff may need to be trained in techniques of supervision, observation, guidance, and assessment to enable them to function effectively as resource persons.

- An existing school may be designated as a central field site or portal school, using the present staff whether they are all committed to PBTE or not. However, there is likely to be only partial faculty support and commitment.

The responsibilities of the various agencies involved in the PBTE program have been implied or indirectly stated in the preceding paragraphs. Every program director will need to work cooperatively with university leaders, school personnel, and state education agency personnel to develop statements of individual responsibility and agreements for mutual effort. Each situation is unique, but the following list of responsibilities may be suggestive of the delegated responsibilities in a university preservice program.

University Responsibilities:

- Provide appropriate PBTE modules
- Provide instructional resource materials
- Provide the services of teacher educators as resource persons
- Construct program design
- Provide training for field-site resource persons
- Provide PBTE training and reference materials
- Evaluate student field experiences
- Develop and maintain record-keeping system
- Maintain liaison with schools and state agency

School Responsibilities:

- Permit use of classrooms, teachers, and students
- Provide school personnel as resource persons
- Provide required physical facilities and equipment
- Cooperate with university in program supervision
- Cooperate in evaluation of program
- Maintain records of student field experiences

State Education Agency Responsibilities:

- Certificate trainees from PBTE programs
- Provide financial support to schools involved in PBTE programs
- Provide administrative assistance
- Maintain liaison with schools and universities
- Speak for the program within the state and nationally
- Provide practical recommendations for program operation
- Interpret the state plan to program participants

One question that must be faced by PBTE program organizers is that of the status of school personnel working in the field-based component of the program. The "field resource person" may be a full-time university teacher educator with academic rank. It is also possible that field resource persons (or site resource persons) may be full-time school personnel paid by the school system, or school persons with joint appointments with the university. These latter may be given a university title such as "Clinical Professor" or "Adjunct Professor" in addition to their school titles. A salary increment may be given to related school personnel if their PBTE duties require them to expend extra time or pursue special training. In negotiations concerning university status and salary, it is important that the professional organizations should not be ignored. Contracts and work agreements between the professional groups and the school administration may be involved, so this should be investigated in the course of program planning.

Student Assessment in the Actual School Situation

Assessment of the student's performance in an actual school setting is a basic and crucial element of the PBTE program. It is considered one of the powers of The Center's PBTE curricula. A discussion of the process as it relates to the resource person and the student can be found in the Resource Person Guide. The professional who actually performs the student assessment may be part of the university or the school staff. The following list cites some of the options that the program designers have at their disposal.

- Cooperating teachers (or "Directing Teachers") may assess the performance of the student teacher or intern. It is essential that they have been given specific training in PBTE assessment procedures, and that they have a thorough knowledge of the modules and the competencies on which they are based. University-based resource persons should make periodic supervisory visits to ensure that the responsibility is being properly carried out.

- University faculty assigned as field resource persons may complete the assessment of the teacher in the classroom.

- School administrators and supervisors who have received special training may complete the assessments.

- Skilled teaching practitioners who have completed the PBTE program themselves or who have been assessed by university faculty can serve as assessors. This can include teaching colleagues who are working in the same school.

- School personnel who have been given advanced training in PBTE program principles and practices may be appointed as adjunct professors and based at a school site as training assessors.

GRADES, CREDITS, AND RECORD KEEPING

The Need

Performance-based teacher education suggests that a new look be taken at the traditional and long-used practices of student grading, awarding credit, recording student progress, and reporting final results. The procedures so well entrenched in the conduct of higher education may have worked satisfactorily in the past (though there is some difference of opinion about even that), but they are not appropriate or satisfactory for a fully functioning PBTE program.

A small-scale, beginning PBTE program may be able to operate within a traditional record-keeping structure, but what will ultimately be needed is a system that is compatible with the principles of the new program. Because learning activities in PBTE are unique, new record-keeping systems are needed to keep students and resource persons informed.

The Problem

There are some basic differences between traditional and PBTE programs that tend to put severe strains on existing methods of grading and record keeping. These differences can be represented as follows:

TRADITIONAL	PBTE
Group-based instruction	Individualized instruction
Series of discrete courses	Sequence of individualized modules
Time-based instructional units	Performance-based progress
Norm-based evaluation	Criterion-referenced evaluation
Student failure accepted and recorded	No provision for failure
Large units of instruction	Relatively small units of instruction
Institution-based instruction	More field-based experience
Overall results expressed as grade-point average	Overall results expressed in resource person's evaluations of teacher competence

These differences create not only philosophical disagreement in institutions of higher education, but also consternation in clerical offices. Administrators often find it difficult to accept the idea that it is possible for all PBTE students to be

awarded an "A". Registrars find that their record systems are not set up to process the evaluation results of 30 to 50 modular units or to provide frequent readouts of student progress. The director of a newly implemented PBTE program has the often difficult job of convincing the administrator and cajoling the registrar. In a limited or beginning program, it is possible to make enough compromises to accommodate the new program to present traditional procedures in order to make things work and minimize the strains.

If the PBTE program retains the conventional course structure, there will probably be little need to change the reporting system. The Center's PBTE modules may be employed as units of study within existing courses and thus become required learning activities for the course. Course grades can then be computed in the usual way on the basis of the learning activities that the student has completed. Even in this limited application, the use of PBTE modules can greatly increase the objectivity of grading.

In a more fully developed PBTE program, there are a number of questions that must eventually be answered if an efficient and helpful record system is to be devised. A few among many questions are:

- How can each student's personalized program be recorded?
- What kind of records will indicate where any student is in the program at any given time?
- How and where is each student's achievement of each competency recorded?
- How can information of student progress (or lack of it) be made available?
- What kind of final record or transcript should be produced?
- How can module completion be accommodated to course credits?

Basic Record-Keeping Systems

There are some highly desirable characteristics of PBTE record keeping that should be incorporated even in a simple and basic system. These include the following:

- The system must store a record of the student's entire proposed program.
- The system must provide an accurate record of the competencies mastered.
- The system must align competencies completed and credits awarded.

- The system must record dates of competency attainment to serve as progress checks.
- Students must have access to their own records to determine status.
- Resource persons need easy access to records in order to advise students, plan their own work schedules, and analyze program results.
- Official records must be tamper-proof.
- It must be possible for resource persons to make record entries quickly and conveniently, on any day of the school year.

The forms and records devised for the beginning PBTE program need not be elaborate, complex, or expensive. The record may be as simple as a sheet-form for each student, located in a file drawer or kept in a notebook. It should, of course, be carefully prepared to meet the informational needs of the program and to allow for quick recording of essential data. One basic form that can be used both by the student and by the resource person is shown on the following page and on p. 13 of the Student Guide to Performance-Based Teacher Education. As described in the guide, the "Personal Progress Record" is useful as a day-to-day record of the student's progress through the program. It can provide information for the student's program planning and for the resource person's advising function. The module completion dates entered in the "Personal Progress Record" can be readily transferred by the resource person to the official records.

A simple form that can be maintained in the official files of the institution is illustrated on a following page. This "Student Record Form" provides space for listing the required core modules and the optional modules included in the student's program. As the student masters the competencies and completes a module, the dates are entered and the resource person signs off on that module. For modules in which the student fails to meet the minimal criteria, no entry is made on the form. While this form provides the minimum essential record-keeping information, it could be expanded according to the institution's needs. For example, each module could be broken down into its integral learning experiences and the completion dates recorded; a credit value can be assigned each module, and this could appear on the student's transcript and other records.

PERSONAL PROGRESS RECORD

Performance-Based Teacher Education Program

Name _____ Subject Major _____

Enter the date each learning procedure is completed.

Module No.	Module Title	Present Competency Assessed	Decision Made to Take Module	Conference No. 1	Decision Made to Select Another Module	Learning Experience No. 1	Learning Experience No. 2	Learning Experience No. 3	Learning Experience No. 4	Learning Experience No. 5	Ready for Final Assessment	Final Assessment	Conference No. 2	Conference No. 3	Resource Persons

PERFORMANCE-BASED TEACHER EDUCATION

STUDENT RECORD FORM

STUDENT'S NAME _____ I.D. No. _____

PROGRAM MAJOR _____

PROGRAM ADVISOR _____

REQUIRED MODULES

Modules	Brief Title	Date Initiated	Date Completed	Evaluation	Resource Person

OPTIONAL MODULES

The "PBTE Personal Inventory" card shown below is used by one university to keep a record of each student's complete program. The modules to be completed by the student are encircled, with each resource person using a separate color to indicate the modules that are his/her responsibility. The card can be used by students to keep a record of their program and progress; it can also be kept in a central 4x6 file cabinet to serve as a comprehensive record of all students in the program.

PBTE PERSONAL INVENTORY

Name _____ Soc. Sec. No. _____

Street _____ City _____ Zip _____

Telephone ( ) _____ Program Area _____

A - 1 2 3 4 5 6 7 8 9 10 11

B - 1 2 3 4 5 6

C - 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

D - 1 2 3 4 5 6

E - 1 2 3 4 5 6 7 8 9

F - 1 2 3 4 5

G - 1 2 3 4 5 6 7 8 9 10

H - 1 2 3 4 5 6

I - 1 2 3 4 5 6 7 8

J - 1 2 3 4 5 6 7 8 9 10

VERIFIED BY:	DATE		DATE
_____	/ /	_____	/ /
_____	/ /	_____	/ /

Another valuable document for the student's record file is the "Teacher Performance Assessment Form" (TPAF), the final assessment instrument for each module. The TPAF is the definitive document for the competency in that it records, as objectively as possible, the teacher's actual performance and indicates the level of effectiveness that can be expected of the teacher in future professional roles. The TPAF can be readily removed from the module and filed, or an authenticated copy of it can be prepared for the file. In a sophisticated record-keeping system, all TPAFs for a given student could be reproduced in microfiche form, permanently filed using little space, and made readily available to a prospective employer or a graduate institution.

A field-based PBTE program such as The Center's PBTE curricula program, has an added dimension to its record-keeping needs. It is suggested that a record be kept of the field resource person's work with the teacher in the classroom. Such information can be used by the resource person in planning his or her schedule, making sure that an equitable amount of assistance has been given to every teacher, and reminding the field resource person of any necessary follow-up activities that should be done. A simple "Field Report Form" appears on the following page. The implementing institution may want to modify the form to make it more suited for its purposes.

There is a growing amount of literature in the field of performance-based education relative to the need for intricately designed computerized management systems for PBTE. There seems little doubt that the use of computerized systems will increase and that eventually all of the larger PBTE programs will want the convenience, accuracy, and versatility that they afford. Such systems can do more than just keep essential records of students' accomplishments. Depending on the elaborateness of the program, they can record each step of accomplishment of enabling objectives, print reports on students who are not making the expected progress, schedule learning experiences, schedule resource person loads, analyze the efficiency of each module, analyze learning experience utilization, and much more.

Computer programs that can do all of these things can be extremely expensive to produce and maintain. Estimates of initial development costs range from a low of $30,000 for a basic system to $400,000 for a fully operational one. It is the position of The Center's PBTE curricula program that an instrumented management system is not essential to the successful implementation of PBTE. When the need for such a system becomes apparent, it is probably the best course of action for institutions with similar PBTE programs to form a consortium for the development of a computer-based system. The shared costs become manageable and the resultant product can be valuable to all members.

Much work relative to computerized management systems is currently being done in this field. PBTE program directors who are interested should be able to locate the latest information in the professional literature. Specific mention should be made of the sophisticated and extensive Computer Management System for Performance-Based Curriculums (COMSPEC) in operation at Florida International University, the Student Information Management System (SIMS) at Florida State University, and other systems at Wayne State University and Western Carolina State University.

COMSPEC provides the following services for the school of education:

- establishes a record for each student (his/her planned program of studies, and progress through the course in terms of modules completed)

PERFORMANCE-BASED TEACHER EDUCATION

- FIELD REPORT FORM -

TEACHER'S NAME _____ I.D. No. _____

PROGRAM MAJOR _____

SCHOOL BASE _____

FIELD RESOURCE PERSON _____

Date of Visit	Activity	Module	Results of Activity

- provides weekly reports to instructors on students' progress through their programs
- flags special conditions in students' learning that may require urgent attention
- establishes a data-base for purposes of long-range planning and program evaluation

COMSPEC is structured so that modification of the system to meet the needs of adopting institutions can be made as efficiently as possible.

Of special interest to vocational educators is the computerized record-keeping system that has been developed by the Vocational Education Department of Temple University for their VITAL program. Called the VITAL Management Information System (VITAL-MIS), it has capabilities for handling not only all the modules in The Center's PBTE curricula, but also the traditional pre- and inservice programs, adult programs, and graduate programs. The computer program can produce reports on demand, manipulating a great number of factors. It has proven invaluable for maintaining and reporting individual students' records, as well as providing a wealth of program-management data. More information on VITAL-MIS, including the operations manual, the computer program, and its capabilities, can be obtained from the developers.

The student's permanent record in a PBTE program should probably consist of two documents. One is a standard college transcript showing the usual records of courses taken in general education and technical education, including credits, course grades, and grade-point average. Another document is related to the professional education curriculum and consists of a listing of required and optional modules completed, dates of completion, and resource person's evaluations and ratings. The "Vocational Teacher Competency Profile" could easily be modified somewhat for this purpose. A copy could be inserted in a suitable folder for presentation to the student upon completion of the program.

Grading Students

A theoretical model of performance-based education provides for evaluation based on the concept of mastery; therefore, traditional letter grades are not appropriate. Given a required series of modules containing essential teacher competencies, the student either achieves the competency or recycles through the necessary experiences until successful performance is achieved. Students are not compared with each other, but student performance is evaluated in terms of predetermined standards or criteria. Grades are not determined by their distribution along a "normal curve," but are awarded to students on the basis of whether they did or

did not meet the criteria. A reporting system using criterion-referenced principles identifies the competencies the student has mastered, not how well his or her work compares with that of peers.

During the transition from traditional to performance-based education, however, the problem of grading can be at least bothersome, and perhaps very difficult. The students' grades tend to be all "A" or "B," and there is an increased use of "Incomplete" to accommodate those who have not completed module requirements. Grading systems tend to become institutionalized and resistant to change.

Most institutions use a five-unit grading scale, base grades on semesters or quarters of work, and use grade-point averages for entrance to student teaching, entrance to graduate school, and for job recommendations. Grading can be a problem for a fully-developed PBTE program because there are no failures and there are no neat bell-shaped curves. It is a common situation, however, for a PBTE program to have to operate within the confines of the present well-entrenched system. There are several options and alternatives that can be considered.

- Institutions that have provision for PASS-FAIL grading may be able to utilize this device for grading competencies or modules. If this system is used, the definitions of "pass" and "fail" should be spelled out and made public.

- An "Incomplete" or "In-Progress" grade can be used in addition to PASS-FAIL to indicate that the learner is working on a module (or group of modules), but has not yet achieved the accepted level of competence.

- The letter "I" (incomplete) can be used very freely to indicate that more time is needed. An "I" could be kept on the records for one year to permit learners to complete the skill, and a permanent grade could then be substituted for the "I" to show completion.

- Learners who progress at an average rate, or those who use less time than allocated should pose no problems.

- When a selection of modules is used as the equivalent of a professional course, the learner can complete the learning experiences and demonstrate competence in an actual school setting. If the resource person is satisfied that the learner is competent, an "A" would be awarded. Registrars, however, find it difficult to accept that many students can have straight-A records.

"A" and "B" grades can be utilized in the system:

- Award "B" to the trainee who demonstrates the competence satisfactorily and satisfies all the criteria.

- Award "A" to the trainee who shows outstanding performance. The definition for "outstanding" should be based on the professional judgment of the resource person, and should be made public in advance. The distribution of "excellent" and "good" ratings on the assessment sheet can be used as criteria for a grade of "A."

- Use "I" for incomplete effort; in process.

- Note that in using this system, few students will achieve straight-A records. Thus, the system will be more compatible with established practices.

Student Credits

Awarding credits for modules completed is another problem that requires some original thinking and perhaps some compromises. In an ideal model of PBTE, the overriding consideration in preparing teachers for their professional role is that of requiring them to demonstrate competence. Amassing course credits toward a teaching certificate or college degree would have little importance in such a model. The realities of higher education, and the requirements for certification, however, often require that the credit system be retained. There are some strategies that can resolve this apparent conflict:

- Assign each module a credit value. The value may be equal for all modules, or it can vary with the estimated difficulty or time for completion. The value of 1/4 or 1/2 credit per module is being used by some institutions, with some complex modules given a full credit value. Typical time for completion of a Center module ranges from about three to fifteen clock hours. Data about students' average completion times for each of the modules is now being gathered.

- A group of modules can be selected to include the same competencies as included in a traditional course (e.g., 3 semester hours).

- Full-time field experience can be translated into a group of "courses" taken simultaneously. During the field experience the teacher could complete a group of modules and be given credit for all the courses (e.g., 15 credit hours).

- During professional preparation, as the student completes modules, the results could be duly recorded in the student's files but no credit actually given. When the entire required core of modules is completed, a predetermined large block of credit would be recorded to meet certification and graduation requirements.

In summary, each institution will need to make decisions about grades, credits, and requirements. There are probably no

procedures that will completely fit traditional college or university systems and yet be completely intellectually defensible within the PBTE conceptual framework. Adjustments will need to be made. The decisions, whatever they ultimately turn out to be, must be made clear to the students, teachers, resource persons, administrators, and registrars who are directly concerned. This must be done before implementation, not during the process. Users of the records, (i.e., prospective employers, supervisors, and graduate schools) should have the system explained to them so that there are no mistakes in interpretation and no confusion with more familiar systems.

CERTIFICATION FOR PERFORMANCE-BASED TEACHER EDUCATION

For the past several years there has been a great deal of discussion and activity in the field of teacher licensure as it relates to performance-based teacher education. Always a hotbed of contention and dissent, the problems of teacher certification have been the center of new controversy with the advent of PBTE.

More than 30 states have studied or are studying the issues surrounding PBTE and teacher certification. A sizeable literature has been developed for the education of those state department of education personnel and university administrators who are especially close to the subject. The interested reader is advised to start with the bibliography in The Center's State-of-the-Art Report.

A number of states have, either by legislation or state agency standards, mandated some form of performance-based education as a basis for certification. In some cases, this has meant little more than translating traditional education course outlines into behavioral objectives, but in other states the change went deeper and storms of protest ensued. At the present time, there is no clear indication as to the direction that certification for PBTE will go.

It is important that the PBTE program director have a clear understanding of the distinction between "performance-based teacher education" and "performance-based certification of teachers." The idea of PBTE can be readily accepted by most educators because it is basically an instructional approach to the preparation of teachers that maintains the traditional professional responsibilities and prerogatives. The certification of teachers on the basis of performance standards, however, is threatening to many because it holds teacher education institutions and their students to rigorous and public standards. It is feared that ultimately the state will set up testing procedures for prospective teachers, much like those for architects or lawyers. This would tend to undermine the present autonomy and authority of the established teacher education institutions, and would impose external standards of accountability on them.

When viewed in this way, it becomes apparent why there is a great deal more opposition to performance-based certification than to performance-based teacher education. There is, of course, some intellectural consistency in accepting the idea that both concepts are parts of the same process. However, there are many problems of reaching agreement on and verifying competencies, and measuring teacher performance that must be solved before performance-based certification will be widely accepted. All of this need not deter the institution planning to implement PBTE, however.

In one state (Nebraska), teachers seeking approval for teaching in vocational post-secondary schools may choose the competency-based option instead of the traditional nine credit hours of course

credit. The listing of prescribed teaching competencies which the teacher is to master is derived from The Center's PBTE curricula program (see Section V). The trend toward specification of required competencies for earning teaching credentials is likely to continue.

Performance-based teacher education programs may exist within the structure of traditional certification standards or within new performance-based standards. Most states use an "Approved-Program" approach to teacher certification in which the college or university files a document with the state department of education listing its series of courses and field experiences. If and when the program is approved by the state, the institution's graduates routinely receive a certificate upon application. Program approval is based on legislated standards or broadly interpreted policies of accrediting agencies.

The approved-program approach allows the state department of teacher certification a great deal of leeway in approving experimental programs. Most PBTE programs now preparing teachers are doing so under an experimental program clause in certification standards. Because certification agencies have been very supportive of program experimentation, there should be no great difficulty in obtaining approval of a PBTE program using The Center's PBTE modules. Programs initiating PBTE in a tentative way (for example, using modules within a traditional education course) are really not concerned with certification requirements at all.

The National Association of State Directors of Teacher Education and Certification (NASDTEC) has recently adopted program approval guidelines for performance-based teacher education programs. In the 1976 edition of Standards for State Approval of Teacher Education, NASDTEC supports the position that the design and implementation of well-planned PBTE programs should be encouraged. The organization has developed recommended standards (guidelines) for use by state certification officers in approving PBTE programs, irrespective of whether the institution or state department views the programs as "regular" or "innovative and experimental." This kind of supportive recognition of PBTE indicates its growing acceptance as an alternative to professional teacher preparation.

Programs that are moving toward full implementation of PBTE should prepare appropriate documentation for a "Program Approval Request" to submit to the state department of education in cooperation with the college of education. Typically, this document consists of (1) a list of the institution's selected core of required teacher competencies, (2) a description of how students are instructed in order to achieve these competencies, and (3) a description of the methods and procedures to be used in assessing the student's level of competency achievement.

The PBTE program director should also submit similar curriculum revision documentation to the curriculum committee in the college of education, the university curriculum committee, and the graduate school.

Teachers earning certification in one state are often apprehensive about the value of their credentials across state lines. Teachers from the 33 states that have signed the "Interstate Agreement on Qualification of Educational Personnel" should experience little difficulty. If the PBTE program has been approved for interstate certification by the home state department of education, teaching certificates will be honored by the other signatory states.

Ideally, student transcripts and certification records should be based on mastered competencies, not on course grades. Practically, that is usually not possible at the present time, and may not be possible for some time to come. Universities with PBTE programs may, however, be able to translate competencies into course descriptions so that certification officers in any state will be able to recognize the qualifications of the students. Teacher competencies as listed on the teacher competency profile can be categorized according to conventional course descriptions as printed in the college catalog. Students who master the requisite competencies can be awarded credit for the specified course and this fact can be entered in the student's record. Any certification officer or hiring institution, by referring to the college catalog, can readily determine from the record the competencies the student has achieved and can determine the individual's professional qualifications.

In summary, the teacher certification process should not interfere with the implementation of PBTE in an institution with accreditation credentials that are in good standing. Certification is one of the lesser of the problems to be faced when first implementing performance-based teacher education.

FINANCIAL SUPPORT FOR PERFORMANCE BASED TEACHER EDUCATION

When teacher educators begin thinking about installing a performance-based teacher education program, some of their first questions and concerns are those related to program costs. "How much will PBTE cost?" "Does it cost more than the standard program?" and "Where can we get the money?" are questions that come up quickly in any discussion of practical implementation problems. Unfortunately, definite answers to some of these questions are not yet available.

There are vast differences in the characteristics of PBTE programs as they are now operating: their developmental processes have been quite different, the settings in which they are operating are unique, and most have not been operating long enough to have accumulated a solid data base. The financial requirements vary depending on whether the program is small or large, whether the concern is with developmental costs or with operating costs.

The Need

It is important that each institution take a close look at the probable costs of installing PBTE in its own educational setting. As planning progresses and the program develops, the institution should make accurate determinations of costs and modify its program design as necessary. Accurate and relatively complete records kept during the program tryout period will aid the program director in making future decisions. Some helpful information may be obtained by maintaining liaison with other institutions which are also developing PBTE programs.

As the PBTE program becomes fully individualized and operational, decisions will need to be made about how to charge trainees for instruction. Traditional time- and course-based systems of tuition charges may not be appropriate.

The Problem

Ultimately, the decision to implement PBTE may depend to a large extent upon its cost. University and local school administrators are acutely aware of costs associated with innovative programs and may not support a new program if its costs are appreciably higher than an existing one. There is a pressing need for reliable information on the actual cost of PBTE programs. Although it is generally agreed that PBTE involves some costs not usually found in traditional programs, adequate analyses are not yet available.

There are a number of characteristics of PBTE programs that influence the costs as compared with traditional programs. Among these are:

- Instructional materials and methods are individualized. These materials tend to cost more than traditional group-based materials.

- The one-to-one relationship of resource person to trainee has a higher cost factor than college faculty in a lecture situation.

- Management systems, particularly computerized systems, may involve high development costs.

- School personnel have a more significant role in PBTE than in traditional programs. This participation can possibly increase costs, though this is not a certainty.

- The assessment of trainee competencies consumes a greater amount of the time and energy of resource persons than does grading in conventional courses.

- The costs of maintaining a resource center with its related equipment can add to operational costs.

These factors, at first glance, seem to suggest the implementation of PBTE will be costly, and perhaps an unattainable ideal. This is not true since costs can be kept under control and held at realistic levels. Program directors will be reassured to know that PBTE programs are now operating successfully on modest budgets.

PBTE Costs

There are two distinct types of costs that must be taken into account as the institution prepares to implement performance-based teacher education. These are: developmental costs and operational costs.

Developmental costs are the expenditures required to start the program, and they include such items as:

- Conceptualizing and designing the total PBTE program.

- Developing and/or assembling instructional materials.

- Devising assessment techniques and instruments.

- Developing the program organizational structure.

- Providing preparatory training for personnel.

- Developing the program management system.

Operational costs are those needed to maintain the PBTE program on a routine institutionalized basis. Much of the cost of operating a PBTE program will be similar to that of traditional programs. Basic physical plant, administrative services and overhead, student personnel services, and such items remain very much the same for all programs. Some PBTE operational requirements

which go beyond traditional teacher education programs, have been mentioned earlier. There may be some offsetting operational savings in the form of student-purchased self-instructional materials, independent study, and unsupervised group work.

Programs using The Center's PBTE modules will be avoiding a substantial part of the developmental costs of instructional materials. The very large costs of competency identification, research, module development, module testing, and revision have been met by the U.S. Office of Education and the National Institute of Education. The implementing institution will benefit by greatly reduced developmental costs and by the technical assistance available. It will be able to continue operation using The Center's PBTE materials at reasonable cost.

A summary statement about the costs of installing a PBTE program based on The Center's PBTE modules includes the following major points:

- Professional staff costs will tend to be higher during the installation period because of the need for preparation of faculty.

- Many institutions may find it necessary to convert gradually to the PBTE program, necessitating that both performance-based and traditional programs be offered as parallel programs, thus increasing costs.

- Initial cost for resources, including media materials, will be higher for PBTE than for traditional programs. Operational costs in this area should be comparable.

- Some teacher education programs will need additional audio-visual equipment for the PBTE program; especially videotape equipment.

- It is anticipated that at least one part-time support staff person will be required to manage the resource center. It is possible that this person may already be available in an existing instructional media laboratory.

- The cost of PBTE is best compared in cost with traditional programs of teacher education in terms of cost-effectiveness and cost-benefit. Even though the cost of PBTE may be higher, the return promises to be much greater than that of a traditional program in relation to the competent teachers prepared.

- Most institutions will ask learners to purchase The Center's PBTE modules much as they would traditional course textbooks. Generally speaking, the cost to the student for modules will be comparable to the textbooks that will no longer (at least in many cases) be required, and will certainly not be excessive. Teachers fully utilize the modules (not just a few

chapters out of a text) and tend to keep them for future reference so they get full value for their money.

The question of faculty load in a PBTE program deserves careful consideration. Because the program is more individualized and personalized, student contact hours are increased and the number of learners that any one resource person can handle is limited. Offsetting this, to some extent at least, is the fact that the resource person has less responsibility for lengthy preparation of lectures, lessons, and examinations. Preliminary indications about The Center's PBTE materials are that if a faculty's total effort is equally distributed among its members, the number of students that can be accommodated is about the same as for a conventional program. If the faculty is given other non-teaching responsibilities (faculty committee work, project responsibilities, etc.) it may well be necessary to provide 50 percent to 100 percent more faculty for the PBTE program than for conventional group-based instruction. In programs that are completely field based, with no campus activities, a single resource person may be able to work with no more than 15 to 20 students. This is particularly true in areas of sparse population where teachers in an inservice program might be many miles apart and travel times are great. It should be noted that part of the additional faculty load that a well-organized PBTE program demands, can be accounted for simply by the fact that PBTE tends to force teacher education programs to do what they should have been doing all along.

Funding PBTE Programs

If actual operation costs are higher than for traditional programs, these costs will somehow need to be met. Several alternatives are given.

- The university may require more credit hours by degree candidates enrolled in the PBTE program, thus increasing tuition yield.
- The PBTE program director might get additional funding support for the field-based or laboratory components of the program.
- The PBTE program may seek outside funding in the form of grants.
- Local school systems might contribute additional funds for the field-based component and inservice PBTE programs.
- State divisions of vocational education may contribute to the PBTE program through the allocation of EPDA funds or through the inservice professional development budget.

Some of the above alternatives may be undesirable or impossible in any specific educational setting. The difficult

decisions will need to be made by university and program administrators. Funding for PBTE programs should in most cases be possible within the usual support for higher education. Regardless of whether PBTE program costs are more or less than those of traditional programs, we must carefully examine the long-range effectiveness of PBTE prepared teachers. Consideration must be given to teachers' job satisfaction, their tenure in the position, and most of all, the effect they have on helping their students achieve career and personal goals.

PERSONNEL DEVELOPMENT FOR PERFORMANCE-BASED TEACHER EDUCATION

The Need

Any venture as important and significant as installing a performance-based program in the teacher education curriculum requires the understanding and commitment of the faculty and administrative staff of the college or school agency. The PBTE model demands that staff members function in new roles, roles for which they may have limited previous training and experience. The total staff must be prepared for the new program, so some form of inservice training is needed.

There are three facets of professional change and development that must be given attention:

- training for new tasks and unfamiliar roles.
- preparation for team work and cooperative professional efforts.
- preparation to work as colleagues in teacher education with school personnel and resource persons.

In the first facet of training, college faculty and school personnel will need to be prepared to function in the role of resource persons. This requires a change from presenter or information-giver to that of advisor, counselor, facilitator, helper, model, and evaluator. A description and explanation of the varied and crucial role of the resource person is found in the Resource Person Guide. The guide itself can serve as a basic training manual for the resource person training program.

The second facet of professional development involves the preparation of the faculty to work as team members. The autonomy and semi-isolation of the traditional teacher educator or teacher is not appropriate to active PBTE programs. Preparation for the cooperative role may not involve training for skills or knowledge so much as human-relations training and supervised collaborative efforts.

The third facet is preparation of resource persons to work with others of the educational community. College and university teacher educators need to be able to function as equals with local school personnel, school administrators, and state agency personnel. The strong field-based element of PBTE makes necessary mutual respect and open, working relationships. In particular, The Center's PBTE modules call for school/college cooperation to arrange for early student experience in the classroom and performance assessment in an actual school situation. Such cooperation cannot be expected to occur naturally, but should be prepared for by the sharing of information and experience, and by cooperative tasks of increasing complexity.

The Problem

Personnel development, even in a limited or modest program, may not come about easily. There are several constraints and difficulties that may pose problems for the PBTE program director. One group of problems involves the personalities of resource persons. Such personal characteristics as insecurity, anxiety, inadequate professional preparation, strong personal ambitions, and personal apathy may all cause difficulties in any effort of professional development.

Other contraints may involve the barriers of institutional organizational patterns that tend to divide people into units, with ensuing detriment to the whole program. PBTE requires interdisciplinary activities and may call for the sacrifice of some independence. Barriers between the faculty of higher education and school personnel may also have to be broken down. Communication between the two groups may be weak, and a mutual suspicion may have grown. Positive experiences should be devised in which college faculty and school staff can work successfully together to solve some of the implementation problems of PBTE.

Staff Development Techniques

It has been reiterated several times in this Guide and in the Resource Person Guide that the performance of the resource person is a crucial one for the success of performance-based teacher education. While there are other staff positions for which training is also essential, it is the resource person's development that is the focus of the following recommendations.

There are four sequential levels in the professional development of the resource person. For each level, there are some appropriate training experiences that may be used by the development planner.

Level 1: Awareness. Initial experiences related to PBTE for resource persons are usually at the awareness level. A conference, workshop, or a retreat is often an excellent setting for introducing the concepts of PBTE. Distractions are minimal, and there is ample time for stimulating discussion and exchange of ideas. Further discussion of the awareness stage is found in an earlier section of this Guide.

Level 2: Information. At this stage, there should be opportunity for increased information, clarification of concepts, and sharpening of understanding. A program of readings on PBTE can form an excellent basis for providing additional information, creating interest, and laying a foundation for productive discussion. Some sources of readings on PBTE can be found in The Center's State-of-the-Art Report, and another particularly recommended source of information is the AACTE series of monographs on PBTE. Other learning experiences at this stage may include

formal presentations by experts, informal talks to the resource persons, and group discussions. Resource persons could also be asked to write position papers, or draw up a set of basic principles for use in implementing the PBTE program.

Level 3: Involvement. Resource persons not only must know about performance-based education as a theoretical model or a new technique, but must be actively involved in exploring their own role in it. With involvement comes commitment, so it is patently wise to have resource persons participate in activities that directly help them discover the implications of PBTE for their own work with students. Resource persons can participate in designing the PBTE program, work out the management pattern for field experiences, write a student handbook for the local program, or form college/school liaison groups to identify areas of mutual concern.

Level 4: Specific Role Training. There may be several differentiated positions for resource persons within the PBTE program. Specific training experiences may need to be provided for the role of field-experience coordinator, field-based resource person, campus-based resource person, and resource center coordinator. Outside consultants who have had experience in programs using a variety of resource persons may be called in to assist with the training program.

Staff Development Plan. Having made the decision to implement the performance-based teacher education program, and having made the commitment for an inservice training program, the PBTE program director needs to develop definite plans. The program outlined below can be used as a framework for developing the inservice program.

1. The administrator of a staff development program should be clearly designated, his/her responsibilities should be established, and ample time allowed to conduct the program.

2. The assistance of qualified specialists and consultants on PBTE should be engaged. A large institution or school system may find that it already has such people on its staff; otherwise it may be necessary to obtain outside experts. In the case of The Center's PBTE curriculum, it may be possible for the implementing institution to arrange for The Center's staff to provide training assistance.

3. Faculty and administrators should be allotted additional time for planning and training. Staff training should be initiated well ahead of the implementation of the program. Ideally, the inservice program should be begun prior to the start of the new school year and should continue throughout the year.

4. The staff should be given enough time to make necessary changes such as acquiring resource materials, reorganizing physical facilities, and preparing additional instructional materials.

5. A PBTE training workshop should be organized with program goals clearly spelled out so the participants know exactly what the outcomes are to be. The workshop might be from two days to a week in length.

6. Prior to conducting the workshop, a comprehensive plan should be outlined. It should set forth the objectives of the workshop and contain a detailed agenda of activities.

7. The workshop should use a variety of instructional approaches, including large-group instruction, small-group discussion, and individual assistance sessions. The staff development administrator should allow time to work with individual resource persons seeking to solve specific problems.

8. As much as possible, the workshop should use a modularized, individualized approach to training in order to allow the participants to become familiar with the module process through personal experience.

9. Part of the workshop time should be spent in focusing attention on the instructional materials which will be used in the PBTE program. If the program is to use The Center's PBTE modules, the staff should have ample time to study them carefully, develop supporting instructional plans, and try them out.

10. The content of the resource person training workshop can be drawn largely from the Resource Person Guide. That, along with the Student Guide, this Guide, and a group of The Center's PBTE modules, can be used as organizers for learning activities and as sources of necessary information. A sample agenda for a two-day orientation and training workshop that can be used by institutions implementing The Center's PBTE curricula program is reproduced on the following pages.

The overriding goal of performance-based teacher education is to prepare teachers who will help provide the best education possible for students. Reaching this goal takes more than thoroughly developed and refined instructional materials. It requires well-educated and sensitive teacher educators, dedicated to the task of using the materials in a creative and personal way.

WORKSHOP DAILY AGENDA

First Day - Morning

Introductions
Purpose of Workshop
Introduction of Workshop Module

PBTE - Concepts and Characteristics
- State of the Art Highlights

State of the Art of PBTE Exercise - Optional

Case Study - Small Group Critique and Discussion

Slide/Tape Presentation - The Center's Performance-Based Curricula Program

Orientation to The Center's PBTE Curricula
- Research Phase
- Curricula Development and Testing Phase
- Dissemination and Implementation Phase

Review of Sample Module - Large Group Questions and Answers

First Day - Afternoon

Review of Second Module - Individual and Small Group Questions and Answers

Review of Other PBTE Materials - Optional

Module Field Test Highlights

Mini-Module Exercise

Introduce "Resource Person Guide to Using Performance-Based Teacher Education Materials

Second Day - Morning

Slide/Tape Presentation - Role of the Resource Person in PBTE

Panel Discussion: Role of the Resource Person
(Panel of Experienced Resource Persons)
- Questions and Answers

Symposium: Role of Students in PBTE
- Students Responsibilities
- Students Reactions

Summary: Role of Students and Resource Persons
- Questions and Answers

Second Day - Afternoon

Role-play: Resource Persons and Students in PBTE - Small Groups

The Vocational Teacher Competency Profile

Case Studies: Assess Needs of Preservice and Inservice Students in PBTE Program

Mini-Teaching Demonstration and Assessment of Final Experience